U.S. Department of Transportation

Federal Transit Administration

INTRODUCTION TO PUBLIC FINANCE AND PUBLIC TRANSIT

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Keith Curry, Samuel Smalls, Adam Gileski and John Bonow of Public Financial Management, Inc. (PFM and Roger Fig-ma, KPMG Peat Marwick

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Public Financial Management, Inc.
275 Battery Street, Suite 2140
San Francisco, CA 94111

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CONTACT: Effie S. Stallsmith
Transportation Management Specialist
Office of Technical Assistance & Safety, RM 6107
202-366-5653

16. Abstract

This report provides a comprehensive description of the elements of public finance, particularly as they relate to public transit issues. The report is intended to serve as a primer for the staff of the Federal Transit Administration and staff of transit agencies across the country. The report provides an overview of the public finance market, the economics of the municipal market, how the market is regulated, who buys and selss tax-exempt debt and general historical market perspectives, the mechanics of debt financing, lease financing and the FTA role, as well as describing cost reduction techniques for transit financing such as international vendor financing, cross border leasing, turnkey procurement opportunities and joint development.

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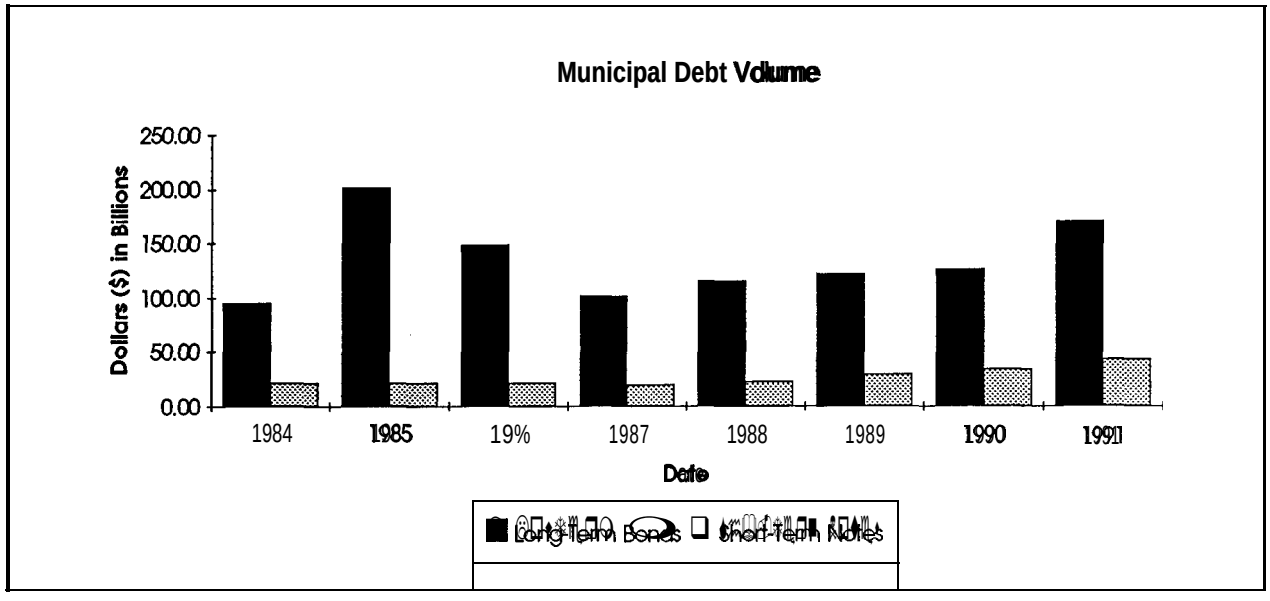
Figure l-l



Generally, transportation financing - financing for roads, bridges, highways, airports, mass transit, parking facilities, bridges and ports - mirrored overall municipal market debt levels. Debt for transportation peaked in 1985 at $14.7 billion, 7.2% of total municipal debt issued (see Figure l-2). Debt for transit, however, did not follow the usual pattern as the individual properties' financing plans, not the regulatory environment, drove the timing of debt. Figure l-2 displays transit debt as a percentage of total transportation debt issued. Transit debt accounted for 39% of total transportation debt in 1986 as volume peaked at $5.6 billion shown in Figure l-3. Throughout the period, short term financing, or notes, constituted a significant portion of debt financing for mass transit, more so than for other purposes. Notes are issued to provide temporary working capital to fund seasonal operating cash flow shortfalls or to provide advance funding in anticipation of receiving federal, state or local grants. Long-term debt, on the other hand, is issued to finance capital projects or to refund previously issued long-term debt to produce lower interest rates or defease restrictive bond covenants.

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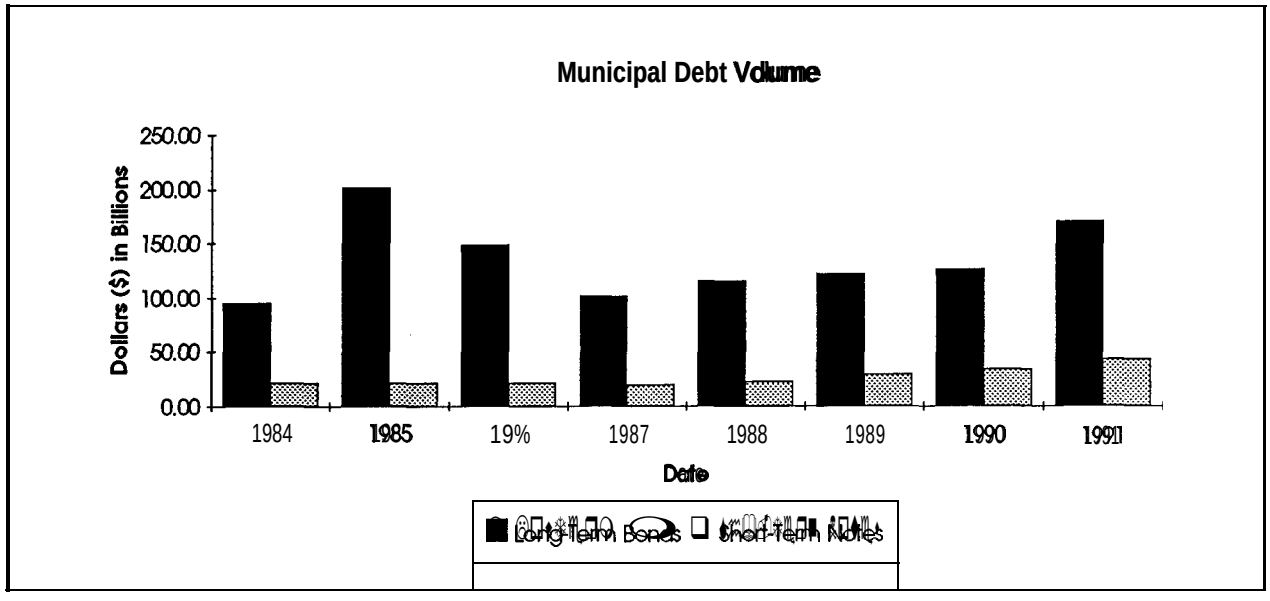

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It is instructive to look beyond the gross numbers to examine who is issuing debt and the relative roles of debt for both small and large operators. An examination of debt trends can also indicate what effect, if any, the general decline in federal operating subsidies has had on transit industry debt. Based on a preliminary analysis of funding by transit property, it is difficult to reach any significant conclusions. Roughly 75% of all transit debt throughout the period was concentrated in four areas of the country - New York, Atlanta, Boston and Los Angeles. Moreover, New York City, using proceeds from bonds issued by the Metropolitan Transportation Authority, the Triborough Bridge and Tunnel Authority and the Port Authority of New York and New Jersey, alone accounted for almost half of all transit debt issued. However, Figure l-4 illustrates the fact that while the number of annual issues may not be increasing, the number of different issuers as a percentage of total issues is increasing. Taken another way, this means that over the past few years on average each issuer is involved in fewer deals as a percentage of the total completed. While additional analysis of individual system's financing plans is required to determine whether or not a real pattern of transit debt financing is emerging, preliminary analysis indicates that perhaps while the number of issuers is becoming broader, the larger, long-term transactions are still reserved for the "big players". There does not appear to be any correlation between available federal operating assistance and debt issuance.

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As can be clearly seen, debt financing has until recently been the domain of the major urban transit operators and has been done primarily to fund the construction of major rail system improvements using revenue bonds.

Recent changes in the ability to use Federal Section 9 funds for lease financings and policy initiatives by FTA, now make the capital markets available to almost all transit operators.

These changes are important to transit operators because of rapidly escalating capital cost requirements due to provisions of the Clean Air Act and Americans with Disabilities Act.

Experience with transit lease financings in California, Virginia and Oregon suggest significant cost savings to local agencies through lease financing. Coupled with the willingness of FTA to consider innovative funding approaches, this has created a climate promoting new financing innovations.

In addition to the opportunities created by the new FTA policies regarding leasing, other FTA policies also promote the use of the capital markets for transit finance. For example, the FTA Advanced Construction Authority gives transit operators the ability to arrange bridge financing to cover delays in the receipt of Federal Section 9 or Section 3 funds. This policy allows transit operators to minimize project delays that may result from inadequate federal funding levels on an annual basis.

The lower interest rate environment of the early 1990s is also creating opportunities to refinance transit debt issued in the higher interest rate environment of the early 1980's. Accordingly, many of the most active issuers during the 1980s are currently reviewing their levels of outstanding debt to identify refunding opportunities.

Evolving Federal policies that encourage joint development are also opening the door for real estate based financings, such as benefit assessments, tax increment and parcel fee-based bonds to support transit.

This report will explore the fundamentals underlying the tax-exempt finance market and will focus on the issues relating to the use of lease obligation financing in conjunction with FTA grants.

Overview of the Bond Market

State and local governments exist to serve and provide for the needs of their citizens. These needs have, in turn, warranted the utilization of various financing techniques. State and local governments typically have two budgets - an operations budget and a capital budget - in order to meet the needs of their citizens. While most operations budgets are paid with tax revenues, much of the money in a government's capital budget is borrowed from investors through the

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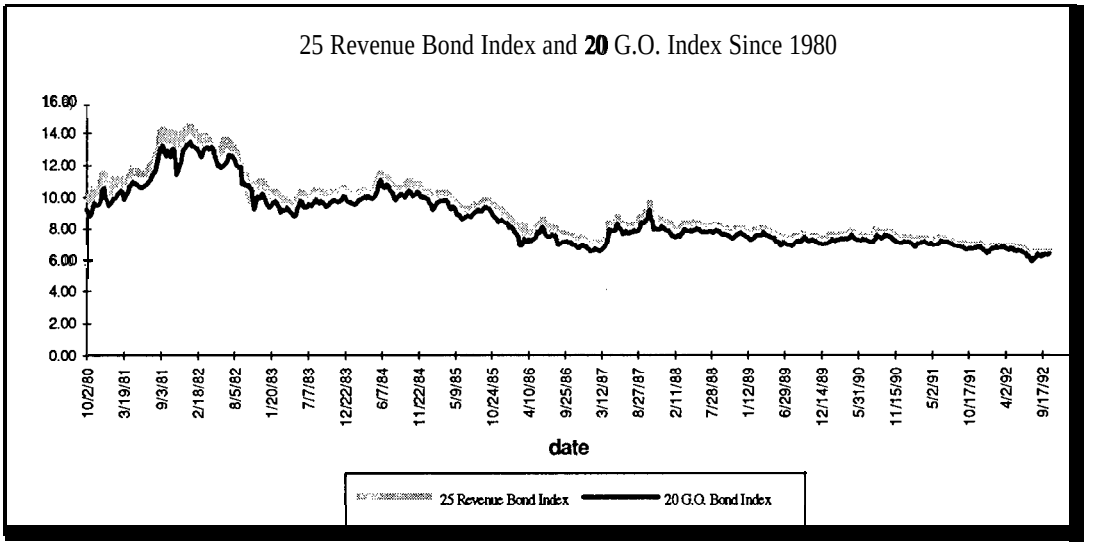
issues - and credits - top quality, intermediate quality and low-quality (junk bond) issues.2 In addition, interest rates vary over time.

Because there are so many factors to consider when describing interest rates, one ought to be as specific as one can regarding the nature of the bonds; this assists in the determination of the factors that dictate the level of that bond's interest rate. As shown in Figure l-5 interest rates for the 25 Revenue Bond index differ due to credit quality from the 20 General Obligation Index. Also, these interest rates vary over time. As is evidenced in this chart, interest rates for these two indices rose dramatically during the period of 1980 to 1982, a period of high inflation. Since then, interest rates have tapered off during a period of sustained growth in the economy.

Figure l-5



These two indices are tracked in ***The Bond Buyer,*** a publication for the municipal finance industry. The 25 Revenue Bond Index charts the yield of a hypothetical 25-year revenue bond if that issue came to market during a particular week. The Index is composed of dealers' estimates and includes bonds of 25 issuers of revenue bonds covering a variety of purposes, including housing, transportation, hospitals and pollution control. The ratings on the bonds included in the index range from Standard & Poor's AAA to A, and from Moody's Aaa to Baa- 1. The 20 General Obligation Index is similar. It, however, is composed of bonds of 20 actual general obligation issuers. The average of the ratings of these issuers is approximately midway between Moody's top four rating categories (Aaa-Baa). Figure l-7 shows the marked difference in interest rate levels between several of the fixed-income securities tracked in ***The Bond Buyer.3***

2David Darst, The Complete Bond Book: A Guide to all Types of Fixed-Income Securities, 34-35.
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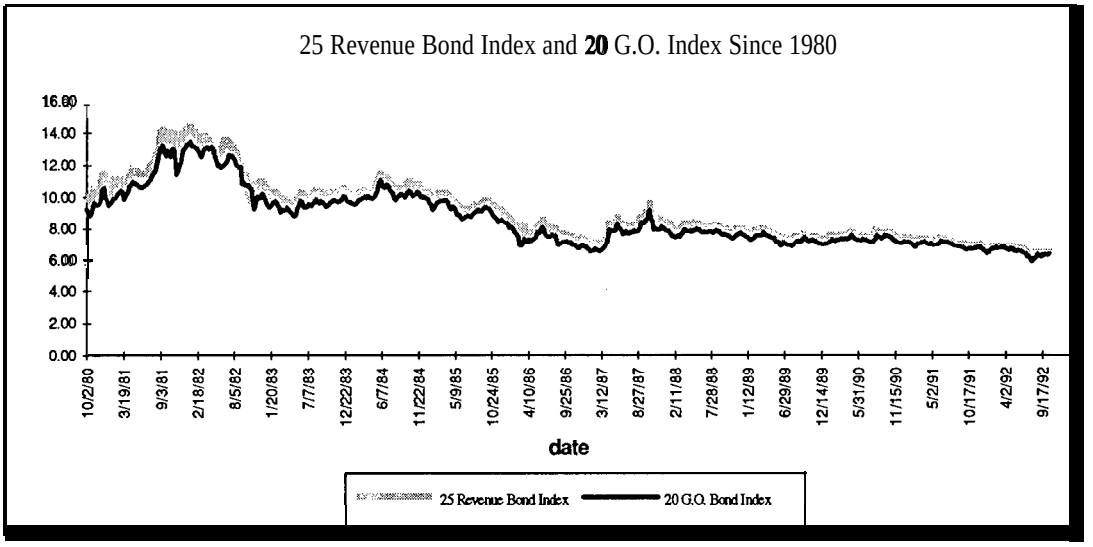

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The Producer Price Index (PPI) which is a sample of goods a producer would buy. The unit of measure of inflation is the change of prices over time.

Economic Activity

The Gross National Product (GNP) represents the total goods and services generated by the nation; it measures the general health of the economy. If the GNP is up, that means that more money is available to buy goods, which pushes up prices and, as seen above, causes inflation and raises interest rates. Increased demand for capital may also cause inflation (e.g. corporate demand for expansion causes price to rise, which causes inflation and interest rates to rise). Stock market indices, housing starts, unemployment, factory capacity utilization, auto sales, and the Federal Reserve Bank's control of money supply represent examples of some indicators of economic activity. At various times in history certain indicators tend to be more important than others. In fact, some indicators fall in and out of vogue yearly. While some of these factors affect short-term rates others fail to affect long-term rates as much.

Table 1-7

Frequently Quoted Leading Economic Indicators
1. Average workweek (productions in manufacturing industries)
2. Average weekly initial claims (state unemployment insurance)
3. Index of net business formation
4. New orders (durable goods industries)
5. Contracts and orders (plant and equipment)
6. New building permits (private housing)
7. Change in book value of manufacturing and trade inventories
8. Industrial materials prices
9. Stock prices (500 common stocks)
10. Corporate profits after taxes
11. Ration of prices to unit labor costs (manufacturing industries)
12. Change in consumer installment debt

Actions of the Federal Reserve Bank.

The Fed attempts to balance inflation, expansion and recession with its monetary policy through the implementation of three basic means. First as the central bank of the United States, the Fed sets a **reserve requirement** for all of its member banks. The reserve requirement is the percentage of cash banks must keep in reserves against their deposits; the higher the Fed increases the reserve requirement, the less money banks are able to lend, which decreases the money supply and raises interest rates. Conversely, if the reserve requirement is decreased,

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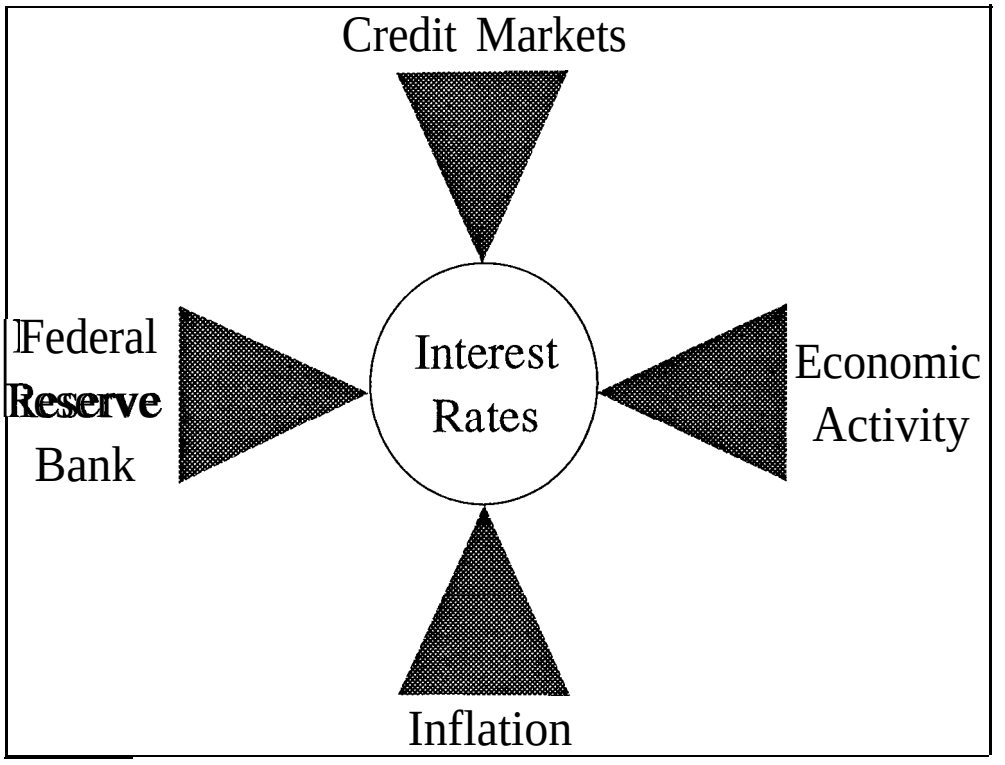

Price-Yield Relationships: Prices, Yields and Coupons in the Primary and Secondary Market

There are three types of bond yields that are important to understand: current yield, yield to maturity and yield to call. **Current yield** is the annual interest on a bond divided by the market price, which represents the actual annual income rate of return on the dollar amount paid by the bond purchaser. For example, a 10% coupon rate on a bond with a face value of $1,000 is bought at a market price of $800. The annual income from the bond is $100. But since only $800 was paid for the bond, the current yield is $100 divided by $800, or 12.50%.[4] The **yield to maturity (YTM)** refers to the total return the bond investor will receive on the bond purchase price by holding the bond until it matures. YTM takes into account purchase price, redemption value, time to maturity, coupon yield, and the time between interest payments. An important note is that it is assumed that the income for the coupon payments are reinvested at the YTM rate. **Yield to call** uses the same method of calculation as the yield to maturity. The only difference is that it is assumed that the bond will be redeemed by the issuer at the first call date specified in the indenture. As such, in the calculation of the yield to call the principal amount at maturity is replaced by the **call price** and the maturity date is replaced by the first call date.

[4] J. Downes and J. Goodman, Dictionary of Financial and Investment Terms, 95.

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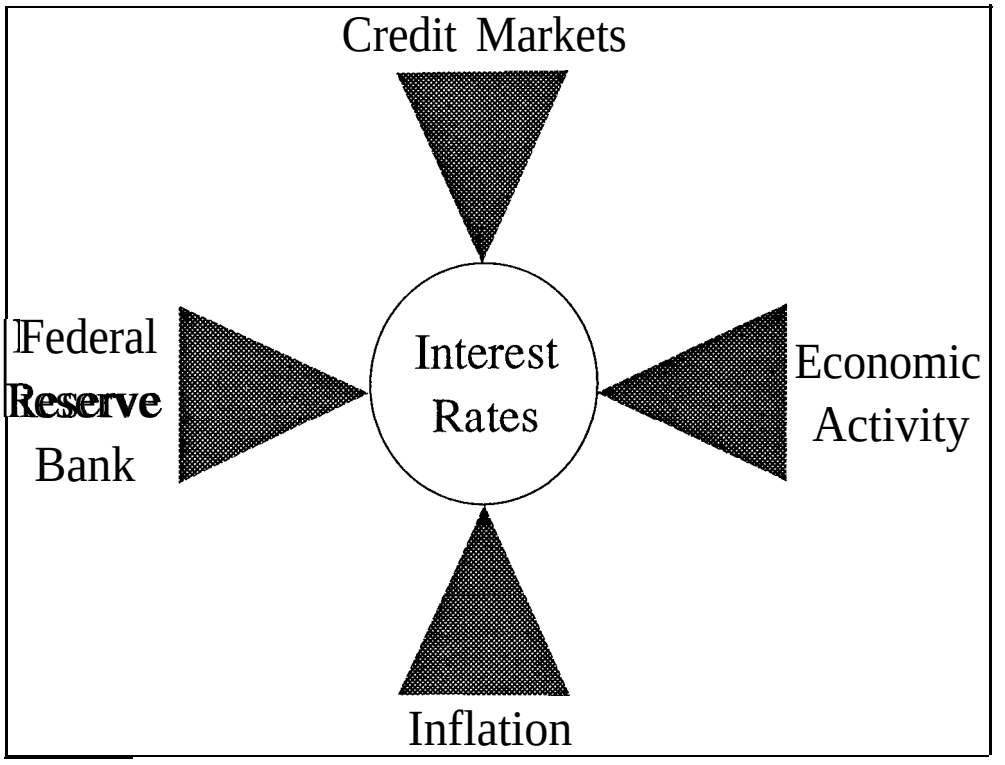

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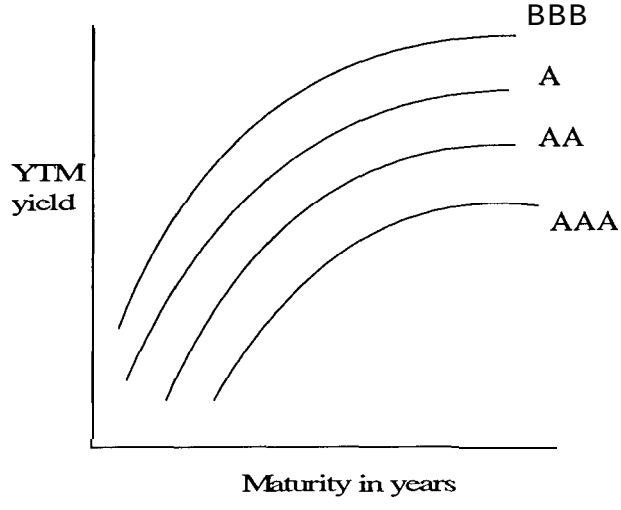
Yield Curves also vary for different credits. As one can see in Figure l-10 below, the lower credits have higher yields to compensate for greater risk. The municipal finance market has two major forms of risk: market risk and credit risk. ***Market risk*** refers to the risk associated with the fluctuation of interest rates, while ***credit risk*** refers to the risk involved with the changing credit quality of an issuer.

Figure l-10



Tax-Exempt Yields

Tax-exempt yields are lower than taxable yields because of their tax-exempt status. Since people are willing to pay more for tax-exempt bonds in order to achieve after tax yields in excess of taxable alternatives, this demand puts downward pressure on their yields relative to taxable bonds. For taxpaying investors, tax-exempt municipal securities often provide an ideal investment to maximize their after-tax rate of return.

The Public Securities Association provides an illustrative example of the effect of federal income taxes on the yields of tax-exempt and taxable instruments in its brochure titled ***An Investor's Guide to Tax-Exempt Securities.*** Using the following table, suppose an investor has the following investment opportunities: (1) a municipal bond yielding 7.50%, (2) a taxable corporate bond yielding 9.25%, and (3) a stock paying a dividend yielding 4%. Also suppose the investor is married, filing a joint return with taxable income of $90,000, which places them in the top federal marginal income tax bracket of 31%. If they invest $30,000 in a 7.50% tax-exempt municipal security, their investment earns $2,250 a year and they pay no taxes on that income. As the table shows, the same investment in a taxable bond yielding 9.25% would return the investor only $1,914.75 a year after federal income taxes - a yield on their investment of only 6.4%. An investment in stock paying a 4% dividend would return only $828 a year after federal taxes - a yield of only 2.8%. Consideration of state income taxes in the calculations can

make the comparison even more favorable for tax-exempt municipal securities. Again, the relationship between yields and tax rates is important.

Table l-11

	7.50% Tax-exempt Bond	9.25% Taxable Investment	Stock Paying 4% Dividend
Cash investment	$30,000	$30,000	$30,000
Interest/Dividend	$2,250.00	$2,775.00	$1,200.00
Federal income tax in the 3 1% marginal tax bracket	-0-	$860.25	$372.00
Net return	$2,250.00	$1,914.75	$828.00
Yield on investment after taxes	7.5%	6.4%	2.8%

A table of tax-exempt/taxable yield equivalents is used in order to determine the profitability of taxable investments. A table for the 1991 tax year is listed below.

Table l-12

Tax-Exempt and Taxable Yield Equivalents, 1991 Tax Year

Single Return	Income Bracket $0 - $20,350	Income Bracket $20,350-$49,300	Income Bracket $49,300 and over	Sample effective marginal rate for married taxpayers subject to both the itemized deduction and personal exemption limits.
Joint Return	$0 - $34,000	$34,001-$82,150	$82,151 and over	
Tax Bracket	15%	28%	31%	34%
Tax-Exempt Yields (%)	Taxable Yield Equivalents (%)			
4.0	4.71	5.56	5.80	6.06
4.5	5.29	6.25	6.52	6.82
5.0	5.88	6.94	7.25	7.58
5.5	6.47	7.64	7.97	8.33
6.0	7.06	8.33	8.70	9.09
6.5	7.65	9.03	9.42	9.85
7.0	8.24	9.72	10.14	10.61
7.5	8.82	10.42	10.87	11.36
8.0	9.41	11.11	11.59	12.12
8.5	10.00	11.81	12.32	12.88
9.0	10.59	12.50	13.04	13.64
9.5	11.18	13.19	13.77	14.39
10.0	11.76	13.89	14.49	15.15

Regulatory Agencies

The Securities and Exchange Commission (SEC) creates rules and regulations to protect investors (e.g. laws prohibiting insider trading; rules governing disclosure - information an issuer must tell an investor prior to a transaction). The Municipal Securities Rulemaking Board (MSRB) is an independent self-regulatory organization established by the Securities Acts Amendments of 1975, composed of 15 participants from securities firms, bank dealers, and the public sector; brokers, dealers and dealer banks must register with them.

How did Tax-Exempt Securities Develop?

Interest earned on U.S. Treasury and corporate bonds are taxed by the Federal Government in the same manner as personal income. Municipal bonds, however, are unique in that the interest received on them is not taxed. This must be qualified by the fact that while the Federal Government does not tax state and local bond interest earnings, states that have income tax legislation in effect typically exempt their local bonds but tax the interest earnings on out-of-state bonds as well as any capital gains on the trading of all municipal securities.5 Bonds issued by a commonwealth, territory or possession of the United States are not subject to federal, state or local taxes. They are hence referred to as being "triple tax-exempt." For example, the bonds issued by the Commonwealth of Puerto Rico are triple tax-exempt to residents."6 Bonds from cities with an income tax may also be "triple tax-exempt" for residents of the city.

The history of the tax-exempt status of municipal securities is inextricably tied to the development of the federal income tax system. The constitutional doctrine of "intergovernmental tax immunity" and the Supreme Court Case of ***Pollock v. Farmers' Loan and Trust Company,*** challenged the federal income tax levied in 1894, particularly as it applied to municipal bond interest. This suit made it apparent that a modern income tax system was necessary and that mutual exemption of federal and state and local bonds was justifiable.7

Pollock and the ratification of the Sixteenth Amendment, however, has not eliminated the efforts of the federal government to restrict the limits of municipal tax exemption. In 1988, South Carolina argued in the Supreme Court case ***South Carolina v. Baker*** that the regulatory provisions of the Tax Equity and Fiscal Responsibility Act of 1982 which requires municipal securities to be issued in registered form was unconstitutional. The Supreme Court upheld the 1982 Act and, "in doing so, expressly overruled the ***Pollock*** holding that municipal bond interest is immune from a nondiscriminatory federal tax."* The ruling of South Carolina v. Baker has left the continuation of municipal securities exemption and tax restrictions subject to the political dynamics of the federal legislative process.9

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5 Municipal Bond Market (Jersey City, NJ: The Financial Press, 1985), 9.
6 Wilson White, Municipal Securities Rulemaking Board Exam Preuaration Study Guide, 24.
7 Fundamentals, 158.
*Fundamentals, 160.
9 Ibid.

Regulatory Agencies

The Securities and Exchange Commission (SEC) creates rules and regulations to protect investors (e.g. laws prohibiting insider trading; rules governing disclosure - information an issuer must tell an investor prior to a transaction). The Municipal Securities Rulemaking Board (MSRB) is an independent self-regulatory organization established by the Securities Acts Amendments of 1975, composed of 15 participants from securities firms, bank dealers, and the public sector; brokers, dealers and dealer banks must register with them.

How did Tax-Exempt Securities Develop?

Interest earned on U.S. Treasury and corporate bonds are taxed by the Federal Government in the same manner as personal income. Municipal bonds, however, are unique in that the interest received on them is not taxed. This must be qualified by the fact that while the Federal Government does not tax state and local bond interest earnings, states that have income tax legislation in effect typically exempt their local bonds but tax the interest earnings on out-of-state bonds as well as any capital gains on the trading of all municipal securities.5 Bonds issued by a commonwealth, territory or possession of the United States are not subject to federal, state or local taxes. They are hence referred to as being "triple tax-exempt." For example, the bonds issued by the Commonwealth of Puerto Rico are triple tax-exempt to residents."6 Bonds from cities with an income tax may also be "triple tax-exempt" for residents of the city.

The history of the tax-exempt status of municipal securities is inextricably tied to the development of the federal income tax system. The constitutional doctrine of "intergovernmental tax immunity" and the Supreme Court Case of ***Pollock v. Farmers' Loan and Trust Company,*** challenged the federal income tax levied in 1894, particularly as it applied to municipal bond interest. This suit made it apparent that a modern income tax system was necessary and that mutual exemption of federal and state and local bonds was justifiable.7

Pollock and the ratification of the Sixteenth Amendment, however, has not eliminated the efforts of the federal government to restrict the limits of municipal tax exemption. In 1988, South Carolina argued in the Supreme Court case ***South Carolina v. Baker*** that the regulatory provisions of the Tax Equity and Fiscal Responsibility Act of 1982 which requires municipal securities to be issued in registered form was unconstitutional. The Supreme Court upheld the 1982 Act and, "in doing so, expressly overruled the ***Pollock*** holding that municipal bond interest is immune from a nondiscriminatory federal tax."8 The ruling of South Carolina v. Baker has left the continuation of municipal securities exemption and tax restrictions subject to the political dynamics of the federal legislative process.9

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5 Municipal Bond Market (Jersey City, NJ: The Financial Press, 1985), 9.
6 Wilson White, Municipal Securities Rulemaking Board Exam Preuaration Study Guide, 24.
7 Fundamentals, 158.
8 Fundamentals, 160.
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Mutual Funds

Unit Investment Trusts

Unit investment trusts are a specialized form of investment company that constructs a fixed portfolio of municipal securities and then offers interest in that portfolio to the public. "They originated many years ago in Scotland and were adapted in this country in 1961 principally to make it easier for the average person to invest in tax-free municipal securities. The minimum investment usually ranges from $1,000 to $5,000. There is a sales charge for purchases, but there is ***no*** management fee because, by law, the portfolio may be changed only by unusual circumstances."[13]

Managed Funds

Managed funds differ from unit investment trusts in that managers customarily make ongoing changes to the portfolio thereby altering the return on investment. The two types of funds also differ in policies governing sales charges and the payment of interest income.

Money Market Funds

Money market funds are open-ended mutual funds that invest in commercial paper, banker's acceptances, repurchase agreements, government securities, certificates of deposit, and other highly liquid and safe securities, and pays money market rates of interest. Launched in the middle 1970s, these funds were especially popular in the early 1980s when interest rates and inflation soared. Management's fee is less than 1% of an investor's assets; interest over and above that amount is credited to shareholders monthly. The fund's net asset value remains a constant $1 a share - only the interest rate goes up or down. Such funds usually offer the convenience of check writing privileges.[14]

Commercial Banks

Three factors contribute to commercial banks' interest in investing in municipal securities: the level of loan demand, overall bank profitability, and the relative appeal of municipal bonds over alternative investments. Banks have shaped their investment strategy in response to industry conditions. In 1960, around 8 percent of all commercial bank assets were comprised of municipal bonds. Banks increased the percentage of their investments in municipal securities during the 1960s as a result of the creation of Certificates of Deposits (CDs) in 1961. These short-term demand deposits enabled banks to manage their assets and liabilities with much more flexibility; that is, commercial banks, which had been forced to invest in short-term municipal notes for liquidity purposes, was now able to invest in longer term securities with higher yields. Because banks could issue CDs when they need to raise capital, there was no longer a major constraint on their investing in short and medium-term bonds.[15]

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[13] Public Securities Association, Investor's Guide to Unit Investment Trusts (New York: Public Securities Association, 1990/1), 2.
[14] Dictionary of Finance and Investment Terms, 258.
[15] Fundamentals, 106.

Municipal securities rose to 14.5 percent of commercial bank assets by 1971. Since then, this share of total bank assets has been steadily declining. This decline was the result of alternative mechanisms banks have utilized to decrease their tax liabilities. Also, the profits of some banks were diminishing in part because of real estate investment losses and in part because of a generally weaker economy. This created pressure on banks to hold on to their reserves.[16]

During the 1980s municipal securities further declined as a percentage of commercial banks' total assets. Federal tax legislation in 1982 abolished the full deduction of interest paid on debt incurred to purchase or carry tax-exempt securities. In 1982, only 85 percent of such interest expense could be deducted. In 1984, the law further reduced the amount to be deducted to 80 percent. In 1985, banks witnessed a short-lived increase in activity in the municipal bond market as a result of concern over the approaching tax reform, improving bank profitability and rising municipal rates relative to other investments due to an increase in the number of new bond issues. At the end of 1985 municipals represented approximately 10 percent of total bank assets, yet by the end of 1989 that figure dropped to a record low of 4 percent. This significant decline is attributed to the Tax Act of 1986 which eliminated the interest deduction for all but the smallest local issuers.[17] F-2 witnessed over the last three decades, the role of commercial banks in the municipal bond market has been heavily influenced by the changes in industry conditions.

Property and Casualty Insurance Companies

The percentage share of property and casualty insurance company assets held in municipal securities has declined considerably since 1979. Prior to 1979, insurers benefited from increases in premium rates, which accelerated their purchases of tax-exempt securities. Municipal bonds grew dramatically as a percentage of overall insurance company assets from 1970 (34 percent) to 1979 (47 percent). After 1979 property and casualty insurance companies began to experience declining profitability. As competition among companies drove down premium rates, as inflation diminished earnings due to rising costs of claims settlements and as state regulators slowly responded to property and casualty insurance firm's economic losses, the number of purchases of municipal securities steadily declined. By the end of 1989 municipal bonds represented 30.4 percent of insurance company assets. Again, the Tax Reform Act of 1986 instituted several changes that had negative impacts on investment in municipal securities. Primarily these changes include the imposition of an alternative minimum tax and new guidelines in the calculation of loss reserves. Actually, in some instances these changes could generate a greater demand for tax-exempt securities, particularly in circumstances where the calculation of income may increase the amount that is taxable.

Who Sells Tax-Exempt Debt?

States, territories, and possessions of the United States as well as any political subdivision, such as counties, cities and special districts for schools, water works, sewers and other public purposes are able to sell tax-exempt securities to investors. Public agencies such as authorities

[16] Fundamentals, 106.
[17] Fundamentals, 107.

and commissions may also issue municipal bonds depending upon the legal authority granted to them.[18] These extra-governmental bodies are attractive issuers from the standpoint of the governing body because any debt issued through them does not appear on the records of the state, county or city controlling these bodies.

Some of the types of issues that are brought to market include: general obligation bonds, water, sewer and electric revenue bonds, lease obligation bonds, industrial development bonds, housing bonds and airport revenue bonds, to name a few. These bonds span a wide range of purposes and, as such, each type of bond has certain nuances that specifically relate to the peculiarities of the purpose of the issue.

How are Tax-Exempt Securities Traded?

Municipal bonds trade in the ***over-the-counter market;*** that is, the municipal market is not located on a formal exchange, or in any centralized location. What this actually means is that dealers bring buyers and sellers together over-the-counter and over-the-telephone nationwide at prices which suit all three parties. The secondary or trading market, in essence, provides liquidity to the municipal securities market, especially considering that there are no set trading hours. Because there is no exchange or computerized marketplace for municipal securities it is difficult to determine the actual size of the secondary market. Standard & Poor's Blue List records a daily listing of securities being offered by dealers. All of the 16,000 to 17,000 municipal issues listed, however, do not trade daily. Estimates are that the secondary market approaches a volume that is between two and three times that of the primary market.[19]

Investors sell municipal securities before maturity for various reasons. In some cases, the investor may need liquidity; the prospect of interest rates may influence his/her decision to sell; credit concerns of the issuer may urge the investor to sell; or the profitability of other investments may become apparent.[20] Regardless of the reason, the investor employs the use of securities dealers, dealer banks and/or brokers' brokers in order to complete their trades.

Historical Market Perspective

In 1990, the public sector issued over $160 billion in long-term bonds and short-term notes to fund large capital projects and to help offset bad economic climate. In 1991, the total volume was approximately $170 billion, . The public sector has increased its use of financing over the last decade to offset the federal government's decrease in the amount of aid to state and local municipalities. In short, the use of a variety of debt instruments in municipal finance has become much more of a necessity for the financial survival of state and local governments and their agencies. The major caveat in the issuance of debt, however, is that an issuer should not issue debt in order to cover day-to-day or operating expenses. Because of the high cost of such

[18] Municipal Securities Rulemaking Board Exam Preparation Study Guide, 24.
[19] Fundamentals, 83.
[20] Fundamentals, 84.

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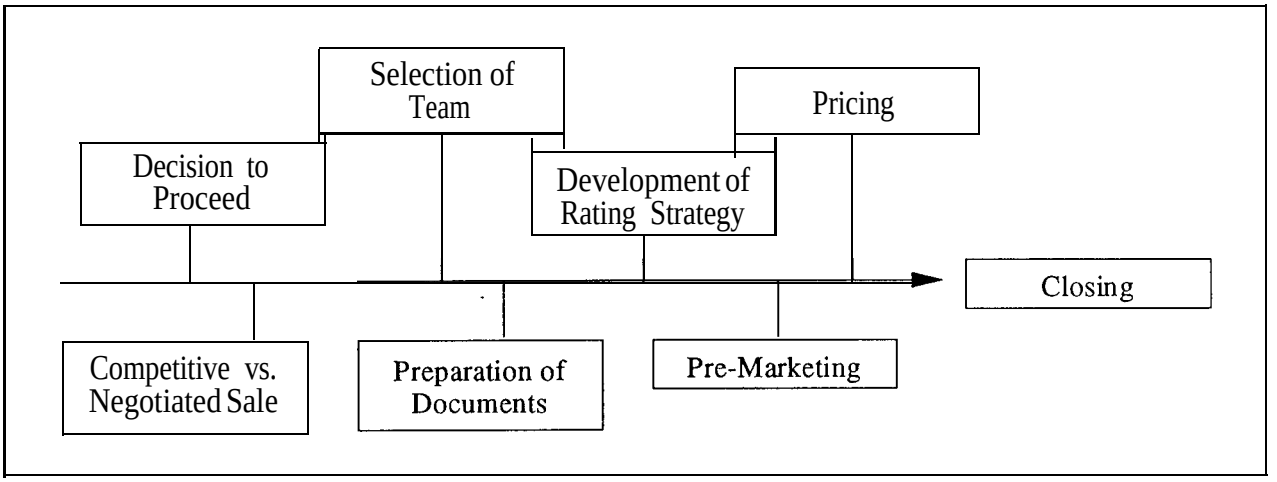
II. THE MECHANICS OF A DEBT OFFERING



The Decision To Proceed

For any prospective issuer to consider offering debt, it must first carefully evaluate its capital plan and financial goals, financing alternatives, existing debt structure, capital budget and future debt capacity.

Financial Planning

Development of Capital Plan and Financial Policies

Capital planning is an essential component of the issuer's overall debt issuance and financing program. Having an idea of future financing needs will enable the issuer to structure current debt offerings in such a way as to ensure cost effective financings in the present and future. Establishing policies regarding the capital plan provides formal written procedures for measuring and making financial decisions. In addition, rating agencies look favorably on debt issues that are part of a well-conceived, long-term plan as opposed to financings that are carried out in a fragmented, disorganized manner; establishing long-term policies and plans demonstrates sophisticated financial management. Ultimately, implementing financing and debt policies will enable the issuer to implement capital expansion plans more efficiently while preserving market access for future debt.

Identifv Financing Alternatives

The decision of whether and how to proceed with a debt offering should also be based on an identification of alternative revenue sources, such as impact fees, assessments, grants and service fees. The availability of such funds will directly affect (1) whether the issuer is financially able to proceed; and (2) the type of debt instrument that would more appropriately match the proposed revenue stream. A financial advisor may help identify funding sources other than a community's tax base (as is the case with the issuance of general obligation bonds). Some other options might include commercial paper, notes, lease structures, revolving loan funds and variable rate debt.

Not all municipal financings, however, warrant the issuance of municipal bonds. The issuer should consider various financing alternatives before making the final decision to proceed. For instance, there is a major difference in philosophy between municipalities who employ "pay-as-you-use" versus "pay-as-you-acquire" methods of financings.

The pay-as-you-use approach argues that new facilities should be paid for over time, through the issuance of debt, by the people who are benefiting from them. For example, if a municipality builds a new airport then future taxpayers who will benefit from its use should help pay for it. Also, by spreading the payment over time the municipality can better manage the payment of such an expensive capital project. Another advantage is that users pay for the services provided by the airport. Airports are typically financed through revenue bonds which use revenues generated from the airport facility revenues that are exacted from airline carriers and other service companies who in turn pass on that cost to consumers.

The pay-as-you-acquire philosophy, however, argues that new projects should be paid for immediately. The basis for this argument is that at various points in time economic downturns occur, forcing greater financial strain on municipalities. If municipalities have large debt service during these times, as history has shown, the rate of default is considerably higher. Therefore, this philosophy attempts to limit the amount of debt that an issuer has outstanding so that it can avoid such circumstances.

Review Existing Debt Structure

Also, the decision process of a debt offering should include a review of the issuer's existing debt service structure, considering revenue mix, stability of each source over time and forecasts of future growth. This will determine how much debt can be issued while still maintaining sufficient cash flow coverage to keep the issuer's present credit rating.

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Competitive vs. Negotiated

In many circumstances, certain municipal securities, particularly general obligation bonds, are required by law to be sold pursuant to a competitive bidding process.1 The process itself begins with a publication of a Notice of Sale by the prospective issuer. The Notice of Sale announces the issuers intent to competitively sell bonds, and is used to solicit bids from prospective underwriters for a competitive sale. Customarily, the notice will be published in the Bond Buyer or Wall Street Journal and possibly a local newspaper of general circulation if required. This notice typically includes the date, time and place of the sale; the amount of the issue, maturity schedule and redemption provisions; legal authority for sale; delivery specifications; the type of security (general obligation, pledge of revenues, etc.); limitation on interest rates and interest payment dates; denominations and registration provisions; names of bond counsel and any other attorneys delivering opinions, credit enhancement facilities. Various underwriters and/or financial advisors submit their sealed responses by a stated deadline, which usually remain sealed until the time of selection. The winning bid, the issuer's acceptance of the bid and the notice of sale constitutes a contractual agreement between the issuer and underwriter to conduct the sale competitively. Whether required or not, competitive bidding allows for competition in the open market.

For some types of transactions, generally those that are more complicated, a negotiated sale may be a better alternative. In a negotiated sale, the underwriter is selected competitively in advance, based on many different factors including, but not limited to, market sophistication, expertise with regard to a particular type of issue and reputation. The issuer and underwriter also negotiate the pricing of the issue. One advantage of a negotiated sale is that the timing of the issue can be adjusted so that the issue can come to market under ideal conditions. The public finance departments of investment banks generate the vast majority of their revenues from negotiated bond issues and therefore have a natural bias both in attitude and experience to negotiated issues. Negotiated sales, however, are more expensive forms of transactions from the perspective of the issuer. The issuer generally recognizes that sometimes the nature of the transaction warrants the additional cost if conducted as a negotiated sale.

The following describes the attributes that argue for a competitive versus a negotiated sale. The decision is made depending primarily upon the attributes of the issue and market conditions at the time of sale.

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- the information regarding the professionals scheduled to participate in the financing
- the use of a process that is perceived as being fair;
- the generation of new ideas regarding possibly financing structures; and
- the need to make a formal transition from existing consulting relationships to new relationships.[3]

The selection of financing team members, however, can be accomplished without the use of an RFP. The issuer, for instance, can obtain comparative price data by informally asking for it, by calling other issuers who are using other professionals, by asking a financial advisor for a breakdown of underwriting gross spread in comparable issues.[4] While an RFP allows for competition for price control, the issuer may conduct direct negotiation with the professionals assisting with the issue.

Preparation of Financing Documents

Develop Financing Documents

Once a financial plan has been adopted by the issuer, the financing team will be responsible for drafting, printing, adopting and distributing all legal and disclosure documents. On complex projects, this phase of the project can be extremely time consuming and exhausting. The issuer typically appoints some entity, usually the financial advisor, to coordinate the preparation, review and finalization of all bond document preparation activities with the issuer's officials, bond counsel, underwriters, banks and other team members. This process customarily includes the preparation and review of trust indentures, official statements, loan agreements, reimbursement contracts, trust participation agreements, purchase contracts, remarketing agreements, and other contracts that may be necessary for bond issues and other debt instruments considered by the issuer. Other documents such as feasibility studies, use agreements and arbitrage certificates are the responsibility of other parties, but their preparation, if necessary, should be incorporated into the document preparation work coordinated by the Financial Advisor prior to the sale of securities.

Development of Rating Strategy

Prior to going to market, all issuers are required to meet with one or more of the three rating agencies - Moody's Investor Service, Inc., Standard & Poor's Corporation and Fitch Investors Service, Inc. - in order to receive a rating of their bonds. Because of the wide variety of issues in

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topic. In addition to making sure that all necessary information is presented, the talking points will set limits on the time to be spent on each item and suggest ways in which to present the material in the most favorable light.

The importance of this phase of the project varies with the experience of the individuals participating in the meeting. However, even the best speakers and most technically competent officials need guidance in the development of a rating presentation.

3. The Collection of Data

The issuer should make sure that it has compiled, reviewed and revised the documentation required by the rating agencies. The objective of this process is to insure that all required documentation is available in a format that is consistent with market expectations. The ready availability of this material demonstrates a significant degree of management control and sophistication and is a very favorable rating factor.

4. Presentation Format

When the issuer makes a formal rating presentation, a presentation document should be developed. This document will provide a level of detail concerning the issuer's financial performance and results that is not permitted in the preliminary official statement. The presentation document is the appropriate forum for the graphic presentation of pertinent financial material--particularly data demonstrating trends in income, debt service and debt service coverage. The presentation document offers the issuer an opportunity to be creative in its presentation. However, it should not become overly promotional. While it is perfectly acceptable to focus on the issuer's strengths, the document must also describe problems facing the issuer. This document offers an excellent forum in which to delineate management approaches to problem resolution.

5. Rehearsal of Rating Presentation

Prior to the rating meeting, the issuer and financial advisor may conduct a rehearsal of the rating agency presentation. The rehearsal offers three significant benefits; first, it ensures that the essential items of information are covered in a logical manner; second, it helps each individual refine his or her delivery style; and third, it enables the issuer to control the timing of the presentation.

The rehearsal represents an excellent opportunity for the officials to receive constructive feedback from both the advisor and other members of the presentation team. It gives each participant a chance to evaluate the persuasiveness of the entity's presentation and recommend alternative approaches.

topic. In addition to making sure that all necessary information is presented, the talking points will set limits on the time to be spent on each item and suggest ways in which to present the material in the most favorable light.

The importance of this phase of the project varies with the experience of the individuals participating in the meeting. However, even the best speakers and most technically competent officials need guidance in the development of a rating presentation.

3. The Collection of Data

The issuer should make sure that it has compiled, reviewed and revised the documentation required by the rating agencies. The objective of this process is to insure that all required documentation is available in a format that is consistent with market expectations. The ready availability of this material demonstrates a significant degree of management control and sophistication and is a very favorable rating factor.

4. Presentation Format

When the issuer makes a formal rating presentation, a presentation document should be developed. This document will provide a level of detail concerning the issuer's financial performance and results that is not permitted in the preliminary official statement. The presentation document is the appropriate forum for the graphic presentation of pertinent financial material--particularly data demonstrating trends in income, debt service and debt service coverage. The presentation document offers the issuer an opportunity to be creative in its presentation. However, it should not become overly promotional. While it is perfectly acceptable to focus on the issuer's strengths, the document must also describe problems facing the issuer. This document offers an excellent forum in which to delineate management approaches to problem resolution.

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management style. Therefore, the summary and technical explanations must be clear and the documentation must be comprehensive and well organized. The POS must fully comply with the SEC guidelines, as well as the industry standards and the guidelines developed by the GFOA and MSRB. With minor modification following the sale, the POS becomes the final OS - the public document of record for the financing and the issuer's only official contact to most investors.

Pricing the Securities

The Pricing of the Bonds

The pricing in a competitive sale begins with preliminary meetings which are generally relaxed settings where dealers consult with the underwriter's traders and salespeople on the day of the meeting to see what potential there is in the market and how other comparable issues have sold.6 The dealer will use this information to compile a reoffering scale, that is a scale of proposed prices or yields for each maturity of the issue. The syndicate manager, if there is a syndicate of underwriters, will take all of the offering scales from each member with its own and negotiate a scale that will all the bonds to be sold while providing a profitable spread. Once this is accomplished the syndicate disperses and places orders.

"The final price meeting usually begins with the manger announcing the proposed pricing scale, and perhaps suggesting the size of the spread. If any sales have been made or lined up already, they are announced at this time. The final price meetings can be very tense, for the bid usually must be placed within about an hour, and the high bidder will often be known immediately at the time of sale.7 In some cases, a member of the syndicate may drop out before the bid is placed.

"In a negotiated sale the preliminary pricing is made three or more days prior to purchase date, which may be revised upward or downward depending on the degree of success of the pre-sale order period. Final prices are set by the managers on the day of sale. Negotiated sales usually entail significantly less market risk than competitive sales."*

Closing the Transaction

There are several tasks that must be completed prior to the closing, which includes printing and preparing bond certificates (if printed bonds are used), completing the final official statement, preparing closing documents, arranging for the transfer of funds and investment of funds. On the day of the closing the receipt for bond proceeds, receipt for bonds, and payment of necessary fees are typically made. The additional bonds test is designed to protect the interests of the holders of any previously issued revenue bonds. Rating agencies are not going to be comfortable with an

6Fundamentals, p. 77.
7Fundamentals, p. 77.
*Fundamentals, p. 78.

issue that passes the additional bonds test by a narrow margin. The issuer in such a situation is well-advised to commit additional resources. The consequence of this trade-off, however, is reduced flexibility on the part of the borrower; pledging revenues for repayment of debt reduces funds available for other purposes. Indeed, determining the balance between securing the highest possible credit rating and maintaining a minimum level of flexibility is a difficult task for the issuer.

PARTICIPANTS IN THE TAX-EXEMPT DEBT MARKET

Financing a project through borrowing involves a large number of participants, as shown in Figure 2-1.

The Issuer

In the arena of tax-exempt financing, the issuer of debt is first and foremost a government or an authority appointed by a government. It is elected or appointed to take charge of the growth and maintenance of a city, town, village, county, state, or another special district coterminous with or overlapping the borders of these entities. Included in the growth and maintenance if this municipality are occasional capital improvements for which the issuer must allocate funds. In some instances, the costs may be structured such that the municipality can use the "pay-as-you-go" strategy. On the other hand, a project might simply require too much money at one time to adopt this approach. In these cases, the issuer needs to find some immediate source of a large amount of capital. It is for this reason that the municipal issuer turns to the public debt market.

The Public Debt Market

The public debt market provides borrowers a cost-effective means of finding lenders. In the United States, there are currently upwards of 80,000 municipal governments, about 60% of which have used the capital market to obtain funds to finance capital-improvement projects. There are also several thousand authorities which have issued debt to finance capital-improvement projects on behalf of a municipality or group of municipalities. In three out of five instances, these borrowers seek less than five million dollars, the repayment of which is commonly spread over a period of time up to thirty years.9

In most cases, before the issuer goes to market to borrow money, it has composed a five- to ten-year master plan that encompasses all expected capital improvements. Besides future physical improvements, this financial plan may also contain provisions to improve the issuer's debt structure, which may include restrictive or expensive debt incurred in the past. In many cases, the issuer has some idea of the schedule of future debt to be incurred to pay for these improvements. In fact, beyond the master plan, the issuer is responsible for the short- and long-term financial planning which must take into consideration past debt as well as present and future obligations.10 For example, before any new debt is issued, the issuer must decide whether more money can be borrowed given existing debt burdens.

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9 Public Securities Association, Fundamentals of Municipal Bonds (New York: Public Securities Association, 1990), 53.

10 Virginia L. Horler, Guide to Public Debt Financing in California, (San Francisco: Packard Press, 1987), 180.

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Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, and Rhode Island may issue general obligation debt only.[11] Regarding credit in particular, the issuer is also obligated to maintain contact with the rating agencies. Because of the importance of the credit rating to the issuer's eventual cost of borrowing money, it is vital that the issuer act quickly on all requests for information by these agencies. The conscientious issuer stays ahead of the rating agencies, keeping the latter informed in advance of receiving specific requests.

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Debt and Investment Management.

Debt and investment management are distinct tasks with which the issuer is also charged. Outstanding debt issues should be periodically examined to determine whether surplus funds can and should be used to make the issuer's debt structure more cost-efficient.[12] For example, older bonds might be purchased in the secondary market with excess cash to reduce the issuer's overall future debt service requirements. Or, the issuer might decide to issue new debt with the main purpose of retiring an entire bond issue. Alternatively, the issuer may hold out for a more favorable interest-rate climate before issuing refunding bonds.

In terms of investment management, among the responsibilities of an issuer in this regard is the prudent investment of available funds (both bond proceeds and idle cash) to maximize interest revenue. An investment manager, whether in-house or independent, can be invaluable in helping to make these kinds of decisions. In short, the informed issuer maintains a balanced perspective on the past, present, and future.

The Financial Advisor

Because the financial advisor is hired to serve the interests of the issuer, it is, of all participants in the issuance of tax-exempt debt, most likely the strongest ally of the issuer. The financial advisor chosen by the issuer is usually either an independent consulting firm or a division of an investment bank. As concern grows about possible conflicts of interest between structuring the bond issue that is best for the issuer versus developing one that will best sell bonds to investors, independent financial advisors, although relatively new, are in greater and greater demand.

Coordinating the Issue of Debt

First and foremost, the financial advisor helps the issuer to determine whether the project in question can be funded through existing sources. The financial advisor is not predisposed to the need to issue debt whenever a capital improvement is built. In many cases, the "pay-as-you-go" option is the least expensive means of financing. This option, however, is usually not feasible when large sums of money are required at one time. Where "pay-as-you-go" is not possible, the financial advisor determines the best financing alternative available and works with other participants in the debt-issuance process to develop the optimal financing structure.

The financial advisor generally plays a part in the financing timetable of the project. A key feature of this schedule, obviously, is the sale date of the bonds. The financial advisor should have frequent market contact to ensure the issuer that the timing of the bond sale maximizes demand for the bonds and therefore commands the lowest cost of borrowing (the lowest interest rate scale). Given today's volatile markets, the determination of the sale date should not be taken lightly.

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12 Horler, p. 183.

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The Senior Managing Underwriter

Fundamentally, underwriting is the purchase of an entire bond issue from an issuer in order to reoffer it, in smaller pieces, to institutional and individual investors. The senior managing underwriter is the investment bank that acts as the leader of the team or ***syndicate*** of investment banks that undertakes this venture. In the United States, there are approximately 50 investment banks that serve as senior managing underwriters on both negotiated and competitive bond issues.[13] In the negotiated issue, the underwriting syndicate is specifically chosen because of its expertise in order to help a municipality or authority to develop a plan for a complicated issue before it goes to market. On the other hand, the competitive issue is structured before the underwriter is selected. The deal is usually sufficiently straightforward so that a number of underwriting syndicates compete with each other in bidding to sell the bonds. The syndicate that offers the lowest overall cost of borrowing to the issuer wins the right to sell the issue.

Underwriting a Negotiated Issue

When the issuer decides to borrow money through the negotiated sale process, the senior managing underwriter that it hires takes on responsibility for a number of ancillary tasks beyond the basic function of underwriting. The issuer, after all, selects the senior managing underwriter largely because of the latter's familiarity with the issuer, its, experience with the type of project being financed, and/or its overall market presence. Its experience can be helpful, for example, in the development of supporting financial documents. Furthermore, its market familiarity is also useful, in that the bank knows what kinds of bonds sell best given a set of market circumstances. Thus, the contribution of the senior managing underwriter to the structuring of the negotiated debt issuance can be crucial in the eventual successful sale of the bonds. An issue that is well-received in the market enjoys a lower cost of borrowing than one for which demand is low. Because there are many players involved in constructing the bond issue, the firm's suggestions are not always adopted completely.

The senior managing underwriter leads the syndicate in pricing the bond issue. For a negotiated sale, the underwriter knows far in advance (soon after it is hired) that it will have a certain amount of bonds to sell on a certain date. Therefore, it can assess the market demand for the issue well in advance of the actual date of pricing. As a result, when the pricing date does arrive, the firm has at the start of the day an excellent feel for the interest rate scale required to attract investors to make the sale proceed as smoothly as possible.

Underwriting a Competitive Issue

Circumstances are much different when a bond issue is to be sold competitively. A senior managing underwriter is ultimately responsible for submitting a bid to the issuer without knowing whether or not the syndicate will win the contract to underwrite the bonds. Bidders are given a basic debt structure for which they must supply yields for each maturity and the discount or spread that they will be paid per $1,000 of bonds. The issuer analyzes each bid received and

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larger the issue, the smaller the per-thousand fee. Even the amount of the spread is market-driven: because competition among underwriters is fiercer now than ever before, spreads have decreased dramatically over the past few decades. Table 2-2 and Figure 2-3 evidence this remarkable drop. Table 2-2 shows the average underwriting spread for different kinds of municipal issues over a nine-year period, and Figure 2-3 depicts a graph relating three particular issue types relevant to transportation issues.

For most issues, the spread ranges from under $10 to about $30 per thousand and, for negotiated bond sales, is broken into four components.

- the management fee
- the underwriting risk fee
- expense reimbursement
- the "takedown"

The management fee is that fixed part of the spread that goes to the senior managing underwriter. The management fee may be thought of as compensation for the senior managing underwriter's expertise and overall contribution to the structure of the deal. Occasionally, small portions of the management fee are shared with co-managers.

Furthermore, not only do underwriters bring their market expertise to a given bond issue, but in the process of underwriting, they theoretically assume a degree of risk: their capital, after all, is tied up in illiquid investments which may or may not sell well to institutional or individual investors. If the underwriting syndicate is unable to sell all bonds of an issue in one day, it must hold the remaining bonds to sell in the future. The tax-exempt status and the safety of the typical municipal bond, however, attract enough investors so the actual risk involved in the sale of municipal securities is quite low. Accordingly, the underwriting risk fee component of the spread has decreased significantly over the past few decades.

Underwriters also charge issuers for expenses made over the course of the issuance process, including legal expenses, travel, copying and computer time. The issuer can usually negotiate the level of expense reimbursement.

The final component of the underwriter's spread is the "takedown": the compensation paid to the sales and trading workforce for the phone calls that make or break a bond issue. In many cases, the issuer is well-advised not to place excessive downward pressure in negotiating this figure. A chief reason is that salespeople will devote more energy to selling an issue with a higher takedown. If this energy translates into over-subscription *(i.e.* more bids to buy than there are bonds to sell), then the issuer might be able to lower its overall cost of borrowing.

The duties of the senior managing underwriter extend far beyond simply underwriting an issue. The firm that takes on this responsibility uses its market presence and sales and trading expertise to develop a secondary market for the securities offered by the municipal issuer.

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Table 2-3

A Comparison of Average Underwriting Spreads

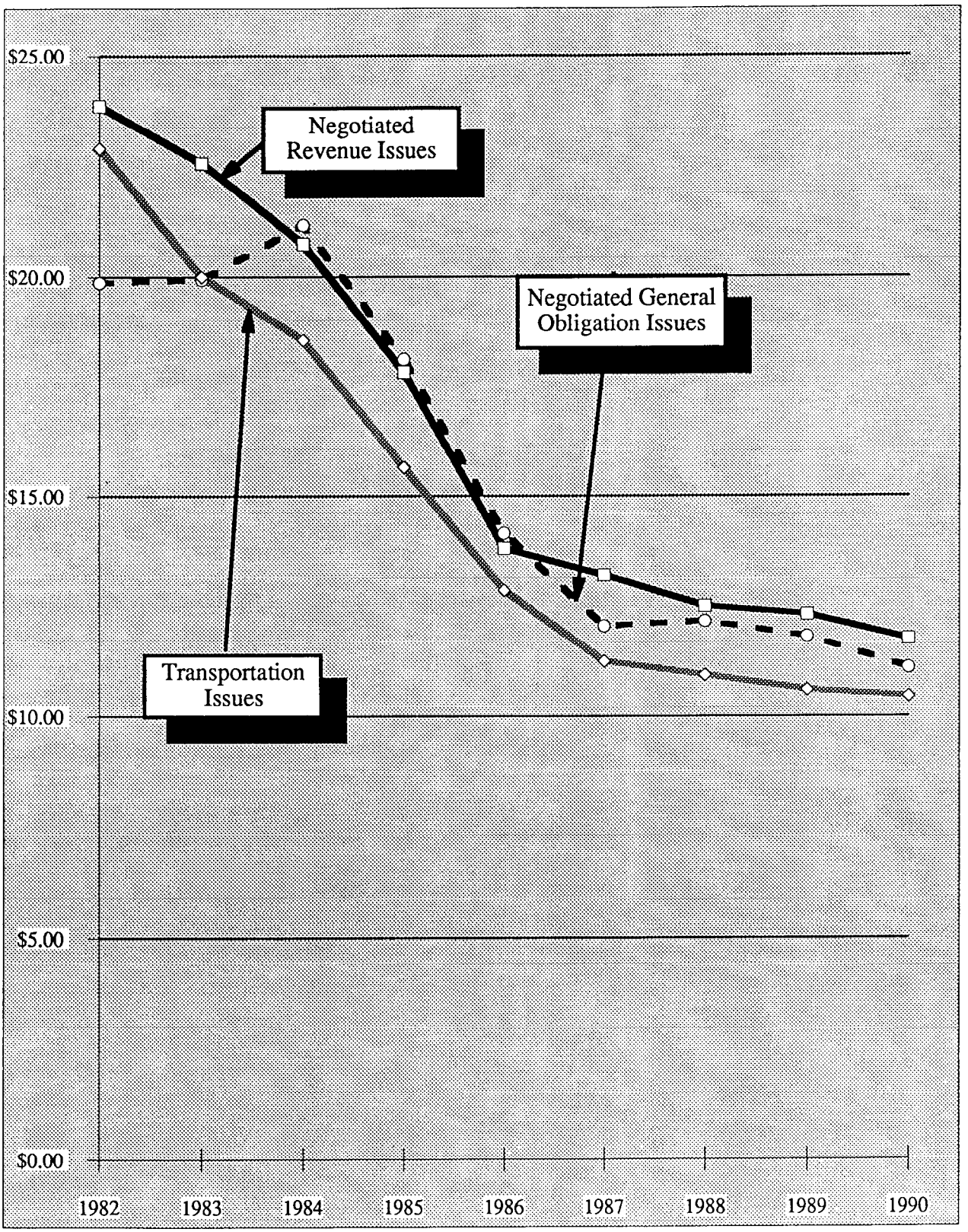
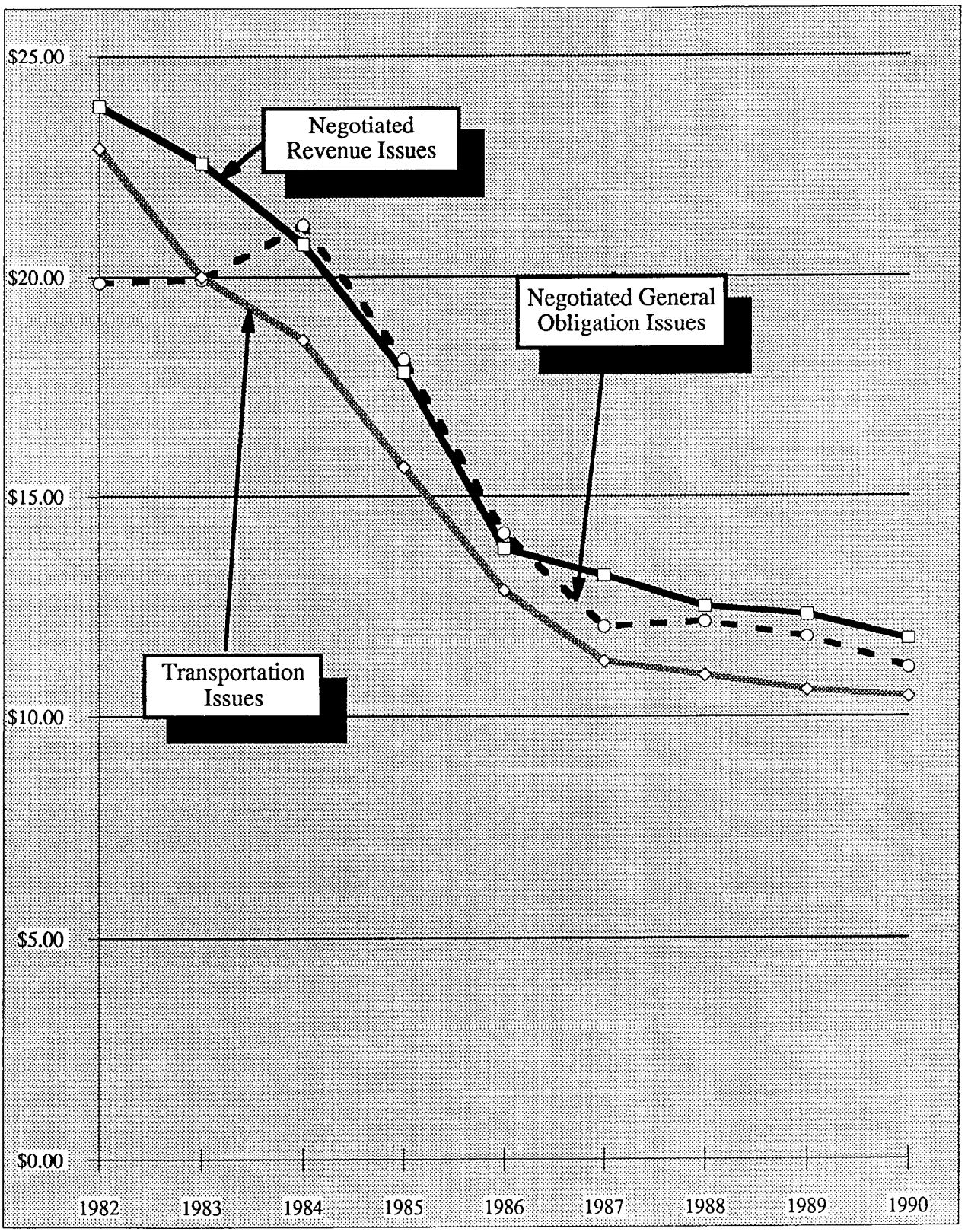


Table 2-3

A Comparison of Average Underwriting Spreads



The Role of the Bond Counsel

The bond counsel is responsible for attending to all legal matters regarding the bond issuance, asking questions of issuers and answering questions of prospective purchasers. Beyond the attestation regarding the tax status of the issue, the bond counsel composes the bond resolution for general obligation debt and the trust indenture for revenue bonds. These documents govern the issuance and maintenance of debt by the issuer. The firm also reviews the disclosure documents (e.g. the official statement) to ensure that all pertinent information is presented accurately and objectively.[14]

The bond counsel also reviews the documents governing previous debt issues to assess whether or not the issuer has the ability or authority to issue additional bonds. One important requirement for a new bond issue is that it pass any "additional bonds tests," which are usually mathematical formulas included in previous bond resolutions that factor projected future debt service requirements into current obligations to determine whether an entity's finances are sufficiently healthy to cover the increases. Another test involves debt service coverage ratios: whether a project's revenues are expected to exceed debt service by a certain ratio (e.g. 150%). Moreover, in some cases, issuers may possess limited debt capacities; bond counsel is responsible for ensuring that these ceilings are not exceeded. While these regulations may seem to be burdensome, they were established to protect the municipal bond investor and have, as such, maintained the attractiveness of municipal securities to the safety-minded investor. Compensation for the bond counsel ranges from $10,000 to upwards of $80,000 or more for issues greater than $100 million.

The Underwriter's Counsel

While its title belies a loyalty to the underwriter, the underwriter's counsel contributes more to a deal than merely legal advice to its client. Indeed, it plays a general role, almost on par with that of the bond counsel.

Duties of the Underwriter's Counsel

In a negotiated transaction, the traditional duty of the underwriter's counsel is to prepare preliminary and final drafts of the disclosure document known as the official statement, which describes not only the bond issue and its security but also the financial and demographic data for the locality which will benefit from the proper use of bond proceeds. All documents relevant to the issuance of debt, including, of course, the official statement, are thoroughly examined to ascertain that they include every financial and legal detail of the securities, the project for which they are issued, and the entity which issues them.

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The Trustee

This participant sometimes performs a combination role of trustee and fiscal agent for the bond issue, although the issuer can act as its own paying agent. (For purposes of this discussion, it is assumed that the trustee performs the paying agent functions) First contacted by the underwriting syndicate, the trustee is usually a commercial bank appointed to perform the internal functions necessary to the smooth issuance and repayment of municipal debt. Despite its crucial role in protecting the rights of the bondholder, the trustee tends to be chosen late in the process because its duties are generally not vital to the structure of the debt.[19]

Back-Office Responsibilities

The back-office functions with which the trustee is charged include the formation of a new trust account into which all bond proceeds are deposited and from which debt service payments are made to investors. The requisite accounting structure is set up and maintained by the trustee. In addition, the trustee is responsible for bond authentication and registration.

At closing, funds are transferred into the trust account and invested. The trustee is responsible for providing detailed investment instructions to the investment department so that public funds are not jeopardized. At the same time, interest revenue should be maximized through maintaining investments as long as possible given the timetable by which the issuer intends to withdraw funds and the schedule for debt service payment. Should surplus funds accumulate in the trust account, the trustee is charged with redeeming bonds according to call provisions specified in the bond resolution or with purchasing bonds in the open market.

Other Duties of the Trustee

Throughout the issuance process and the subsequent term of the debt, the trustee serves chiefly to protect bondholders. In this regard, it closely examines the sources of revenue, the collateral, any third-party guarantees, and the underwriter's opinion to assess the bondholder's risk. Once the securities are issued, the trustee as paying agent promptly makes interest and principal payments. When necessary, the trustee acts on behalf of the bondholders to ensure compliance with the bond resolution in the case of a technical default or to obtain payment of interest and principal in the case of an actual default.

Although the trustee's chief function is to ensure that the bondholder's interests are not violated, the bank's compensation comes from the issuer directly.

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[19] William P. Dubose and John F. McFadden, "The Role of the Municipal Bond Trustee," in Fabozzi, et al., p. 156.

The Trustee

This participant sometimes performs a combination role of trustee and fiscal agent for the bond issue, although the issuer can act as its own paying agent. (For purposes of this discussion, it is assumed that the trustee performs the paying agent functions) First contacted by the underwriting syndicate, the trustee is usually a commercial bank appointed to perform the internal functions necessary to the smooth issuance and repayment of municipal debt. Despite its crucial role in protecting the rights of the bondholder, the trustee tends to be chosen late in the process because its duties are generally not vital to the structure of the debt.[19]

Back-Office Responsibilities

The back-office functions with which the trustee is charged include the formation of a new trust account into which all bond proceeds are deposited and from which debt service payments are made to investors. The requisite accounting structure is set up and maintained by the trustee. In addition, the trustee is responsible for bond authentication and registration.

At closing, funds are transferred into the trust account and invested. The trustee is responsible for providing detailed investment instructions to the investment department so that public funds are not jeopardized. At the same time, interest revenue should be maximized through maintaining investments as long as possible given the timetable by which the issuer intends to withdraw funds and the schedule for debt service payment. Should surplus funds accumulate in the trust account, the trustee is charged with redeeming bonds according to call provisions specified in the bond resolution or with purchasing bonds in the open market.

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likelihood that circumstances beyond the issuer's control will modify the withdrawal schedule makes very illiquid investments unattractive.

Given these two constraints, the optimization of earnings appears of secondary importance. Nevertheless, even a portfolio managed with a prudent investment strategy can yield a rate of return exceeding that of the portfolio without any strategy. An important consideration for the issuer is whether this increase justifies hiring an investment manager; in most cases, it does, since municipalities tend not to have experienced securities traders on their payrolls.

Indeed, the best investment managers develop customized strategies for their clients. After all, each issuer is unique with regard to total amount of proceeds, investment restrictions, and expected withdrawal schedules. In some cases, investment advisors take part in setting up these schedules to keep funds invested as long as possible. Investment managers offer greater market access than their clients are generally able to obtain, the consequence of which benefits the latter. Simply put, investment managers have a greater number of investment options at their disposal, which translates into greater flexibility for the issuer. Even if an issuer's permitted investments are restricted to federally-backed securities, an extensive range of maturities effectively increases the options available.

Apart from market access, investment managers should offer an active trading philosophy. Insightful market analysis can uncover opportunities to trade into an instrument with a higher yield without a proportionate increase in assumed risk. In addition, active management serves as a mechanism to deal with the unexpected. An issuer should not enlist an investment advisor that does not commit to active management ; passive investment requires little time and skill. On the other hand, the degree to which management is active should not be measured on number of transactions alone. It is important to remember that many trades incur transaction fees; the best investment advisors will not recommend these transactions unless the potential gain is significant.

Arbitrage Considerations

An additional-and very important-consideration in choosing an investment manager has developed as a result of the Tax Reform Act of 1986, which forbids the earning of arbitrage on public funds. Arbitrage is defined as that amount of interest earnings in excess of the cost of borrowing. For example, if a municipality issues bonds at **6%,** yet it earns 7% on its investments of that bond's proceeds, the 1% difference is considered arbitrage and must be rebated to the Internal Revenue Service. These rebate regulations arose to counter abuses by governments that issued debt at tax-exempt rates, invested the proceeds at taxable rates, and never actually used the proceeds to fund a capital improvement. The spread between tax-exempt and taxable rates commonly exceeds **3%,** so the municipalities were essentially amassing "free" funds. In any case, the responsible investment manager facilitates compliance with arbitrage regulations by providing organized statements of account and sometimes arbitrage rebate calculation services.

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Letter of Credit

This instrument differs from bond insurance in that it has an expiration date, yet it provides the same unconditional guarantee in the event of issuer default. Letters of credit are issued by domestic or foreign commercial banks whose credit rating is applied to the issuer that obtains such a credit instrument. The cost of the letter of credit is called a credit facility fee and is paid at closing.[21]

Line of Credit

A credit line is another instrument through which an issuer can borrow needed funds. Renewal occurs on an annual basis and the fee for a line of credit is usually a percentage of debt outstanding.[22] Accordingly, this credit facility can become quite expensive, the price paid for credit flexibility.

CASE STUDY: SACRAMENTO REGIONAL TRANSIT DISTRICT
CERTIFICATES OF PARTICIPATION COSTS OF ISSUANCE

An example of the typical costs of issuance for a Certificates of Participation transaction is provided below. This example is based on estimates of the Sacramento Regional Transit District $31 million COP transaction for bus acquisitions. The breakdown is as follows:

Underwriting	$204,550
Bond Counsel	$60,000
Financial Advisor	$60,000
Lessor Administration Fee	$60,000
Printer	$22,000
Trustee	$9,300
Rating Agency	$14,000

[21] Horler, *ibid.*

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Types of Bonds By Credit:

General Obligation Bonds

General obligation securities are backed by the full faith and credit of state and local governments. The taxing power of the securities is not subject to constitutional or statutory limitations.[24] As such, they are the most secure credit ratings of municipal bonds. An ***ad volorem*** tax on the assessed value of real estate is the most common base supporting this debt in cities and towns.

General obligation ("G.O.") bonds usually require the approval of voters in a public referendum and typically come in one of two forms. The first is an unlimited tax general obligation bond (ULT) which is considered to be the best form of a G.O. because it is secured by a pledge of taxes that is not limited in rate or amount. The other is a limited tax general obligation bond (LT) which is only secured by taxes from specific sources, such as sales taxes, gasoline taxes, income taxes, etc. This constraint in revenue sources, which in the market is perceived as a greater credit risk, results in higher yields of LTs than ULTs.

Revenue Bonds

Revenue bonds have enabled state and local governments to finance a wide range of projects. Bridges, airports, water and sewer treatment facilities, health care facilities, and state and local housing projects have been generally financed by revenue bonds. In addition, current law permits certain types of facilities which are owned or used by private entities to be financed by tax-exempt revenue bonds, if they meet specific criteria. Typically, revenue bonds are payable from specific sources of revenues, other than property taxes, and are not backed by the full faith and credit of the issuer. Revenue bonds are typically secured solely by a revenue pledge, by related covenants of the issuer to assure the adequacy of the pledge revenue sources, and sometimes by a mortgage on the facilities financed by the issuance of the revenue bonds. Because the payment sources of revenue bonds are limited, a feasibility study analyzing the projected revenues and operations of the facility being financed is often required to market the bonds.[25]

Lease Obligations

Lease-appropriation (or "lease-purchase") financings are structured to take advantage of a government's general credit without the pledge of a specific tax and, usually, without the need to secure voter approval. The certificates issued in such transactions are secured by a proportionate interest in a stream of lease payments.

Usually, such transactions offer the certificate holder a security interest in the property being financed or purchased. In most cases, facilities financed through lease-purchase are essential to the operation of the government (e.g. correctional facilities, state offices, etc.). As a result, the investor has added security against a default in lease payments.

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CASE STUDY: TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON

The Tri-County Metropolitan Transportation District of Oregon ("Tri-Met") provides transit service to the metropolitan Portland region. Service is provided through a combination of buses, vans and light rail. During the past 3 years Tri-Met has called on a variety of financing tools to renew its bus fleet and expand light rail in the region.

In 1985, Tri-Met needed to expand its plant and buses. Because Tri-Met was unable to secure an FTA grant for the project, Tri-Met developed a revenue bond program based on a first lien on its payroll tax revenues to fund these needs. The bonds were first issued as variable rate bonds with a letter of credit for liquidity and credit support. In 1992, Tri-Met refunded the bonds to a fixed rate financing without the letter of credit, establishing an Al/AA rating for its long term debt.

In 1990, Tri-Met needed to purchase new buses. As part of a Section 3 FTA grant, Tri-Met needed to provide funds for a 20% match on a purchase of 108 buses. Rather than paying cash from Tri-Met's working capital reserve, Tri-Met reached an agreement with FTA to allow Tri-Met to finance the local share of this acquisition. The financing was accomplished through the separation of interest in the acquired buses to allow FTA 100% interest in 80% of the buses. This allowed Tri-Met to lease purchase 22 buses, granting the lessor 100% interest in those buses. Tri-Met was then able to keep the working capital reserve in place at a higher balance to allow more flexibility as it entered a new phase of light rail construction.

In 1989, Tri-Met submitted an application to FTA for an extension of the Eastside Light Rail, known as MAX, to continue the line 15 miles to the West of downtown Portland. To meet the local share requirements of the grant, Voters authorized a $125 million general obligation bond and the Oregon State Legislature authorize the issuance of $114 million of lottery revenue backed bonds. In September of 1992, the FTA approved the first phase of the project, authorizing up to $515 million of federal funds for the extension to 185th Street, approximately 2/3 of the total project distance. Tri-Met expects to amend the agreement when the Environmental Impact Statement has been approved for the second section of the line. The total program will involve another $200 million of Section 3 funding and will use flexible funding available from the new ISTEA appropriations originally programmed for highways.

Short-Term Notes

Bond Anticipation Notes (BANs) are issued to obtain financing for projects that will eventually be financed through the sale of long-term bonds.[27] BANS are considered the least secure of a municipality's notes. They provide a means of interim financing in anticipation of a future bond offering. Therefore, unless they are otherwise secured, they are dependent upon the local government's ability to issue those bonds.[28]

Tax and Revenue Anticipation Notes (TRANS) are issued in anticipation of tax receipts and other revenues. They are usually general obligation securities.

Grant Anticipation Notes (GANS) are short-term notes issued in anticipation of grant moneys to be received from some other governmental body or agency. GANs are used particularly to initiate the construction, operation, etc. of a project despite the fact that the grant moneys have not been received.

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CASE STUDY: THE SAN DIEGO REGIONAL TRANSPORTATION COMMISSION

Perhaps no region of the country has utilized a greater range of financial tools to address their regional transportation funding requirements than the San Diego, California region. San Diego is currently implementing several extensions to the San Diego Trolley system, constructing commuter rail from north San Diego county to the center of the city of San Diego, expanding bus operations and undertaking a major highway construction plan.

In 1988, voters in San Diego County enacted a 1/2-cent sales tax to support transportation. Within one month of the first tax receipts, the San Diego County Regional Transportation Commission ("Commission"), issued Bond Anticipation Notes ("BANS") to allow the Metropolitan Transit Development Board ("MTDB"), to proceed with an advanced payment option for a rail car acquisition. By taking advantage of the lower costs due to the advanced payment approach, MTDB saved between $1.5 - $2 million on its vehicle acquisition. The use of BANS allowed the Commission to fund the procurement without making long term financing commitments prior to developing a financial plan.

In 1989 and 1991, the Commission issued long term sales tax bonds to advance construction of the Trolley extensions and to proceed on major highway projects. By positioning itself to fund projects during an economic downturn, the Commission was able to stimulate the local economy while achieving lower construction and land acquisition costs.

Also in 1991, the Commission instituted a tax exempt commercial paper program to again provide savings by an advanced rail car funding approach. The commercial paper program also reduced the risk of delayed reimbursements from state transportation funds. Again, an additional $1.5 million was saved on the procurement and long term borrowing capacity was preserved. In fact, because commercial paper borrowing rates are below investment rates, the Commission was able to borrow two years prior to its funding requirements, invest at a profit and achieve a net financial benefit.

To further reduce the cost of its rail car acquisition, MTDB entered into cross border lease arrangements with a German financial institution. The cross border lease approach is expected to generate savings of 2.5% - 4.5% or $1.9 million. North County Transit, which will operate the regional commuter rail service is also considering a cross border lease for its equipment.

In 1990, MTDB initiated the first Section 9 supported transit bus lease financing utilizing Certificates of Participation ("COPs"). This financing allowed a 130 bus procurement to be accomplished in one year versus four-and-one-half years through a conventional cash acquisition. The acceleration of this acquisition resulted in savings of $4.3 million. An additional $41 million was freed for other eligible projects.

In 1992, the Commission utilized an interest rate swap as part of a $141 million sales tax bond financing. The use of the swap allowed the Commission to borrow for the remaining sixteen year term of its tax at an effective true interest cost of 5.34%. The comparative conventional financing would have achieved a cost of 5.97% and would have cost, on a present value basis, $5.95 million more over the life of the bond issue.

Coupled with active investment management that allows the Commission to maximize its earnings on tax receipts and bond proceeds, the Commission has used a wide range of financial tools to maximize its effectiveness in transportation project delivery.

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Suppose you market a 7.5% 20-year bond, par value $1,000.00 with a settlement date of August 1, 1991 and maturity date of August 1, 2010 at a time when market rates dictate a 9.5% yield to maturity. If the bond is going to be sold in the secondary market it must be discounted in price.

Figure 2-4

	A	B
Face Value	**$1,000.00**	$1 ,000.00
Purchase Price (Value)	**$1,000.00**	**$825.56**
Yield to Maturity (YTM)	**7.5%**	**9.5%**
Coupon	**7.5%**	**7.5%**
Current Interest Rate	**7.5%**	**9.5%**

Floating (Variable) Rate/Fixed Rate

A floating rate bond is a long-term bond for which the interest rate is adjusted periodically according to a pre-determined formula, based upon specific market indicators. A floating rate bond can be designed to have the option to change its variable rate status at certain intervals. A fixed rate bond, on the other hand, has an interest rate that is set for the life or a specified period of the bond's maturity.

Derivative Products

The development of the derivative products market over the past three years has marked one of the most significant changes in the municipal market in the past two decades. Municipal index interest rate swaps, inverse floating rate and dutch auction securities and detachable call options reduced market inefficiencies and have enabled issuers to save up to 50 basis points on their long-term cost of capital. These products have also served to increase the confusion faced by governmental officials as they try to complete their financing programs at the lowest cost and on a timely basis. Most investment banks have developed their own proprietary version of a host of derivative products either on their own or through a contractual arrangement with an independent counter-party.

Cans and Collars for Variable Rate Debt. When Investment banks provide a cap or a collar, they assume significant market risk especially if interest rates fluctuate greatly.

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[32] An Investor's Guide to Tax-Exempt Securities, p. 4.

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KEY FEATURES OF MOST TYPES OF TAX-EXEMPT DEBT

Legal Authority to Issue Debt

Financings normally are arrangements involving some type of Authority, City or State which wishes to pay for the use of equipment or property on a rental basis. The most fundamental consideration to be made by the entity which desires to finance a project by engaging is some type of lease financing is whether or not it is legally authorized to do so. This authority is normally given to the entity as it is created. While an entity may have the general authority to issue debt, many types of debt instruments issued by governmental units must be authorized by voter approval. Lease financings are not normally considered to be debt obligations of the entity and for this reason may often be done without voter approval.

Security/Pledge

Instruments used in lease financings, such as Certificates of Participation (COP's), as well as all other types of debt instruments, must be backed by some type of security or pledge (e.g., taxes and fees for a revenue-backed Lease or ad valorem property taxation for a city lease). The obligation to pay the fixed rentals under the Lease need not be absolute and unconditional; it depends on the security being pledged and on the entity engaged in the Lease.

Flow of Funds

A description of the flow of funds from the sources of payment (the security pledge) to the holders of the, for example, Certificates of Participation is a standard part of lease financing documents. This necessary section of a lease financing document shows how the Certificate Payment, Construction, Revenue, and General Funds are to be financed. The flow of funds from the rent payer through any paying agent to the COP's holders must outline exactly how the rental payments are to be paid.

Additional Bonds Test

Should the governmental unit wish to enter into an additional lease financing, the security for which is the same as that for an existing Lease, it must comply with the Additional Bonds Test language set forth in the indenture. That is, if the desired additional financing causes the resulting security coverage ratio to fall below that required by the indenture, the additional financing cannot be done without securing additional sources of payment.

Covenants of the Issuer

Furthermore, the issuer normally sets forth covenants in an indenture in which the issuer agrees to take the necessary steps to provide adequate payment streams for debt service. Often included in this indenture language (or in the lease agreement) are covenants which prevent the lessee from substituting equipment or other property for the leased property - a non-substitution

KEY FEATURES OF MOST TYPES OF TAX-EXEMPT DEBT

Legal Authority to Issue Debt

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THE RATING PROCESS

The key determinant in an issuer's cost of borrowing is the credit rating: a one-, two-, or three-letter code, occasionally modified by numbers, a plus sign, or a minus sign. In the rating process, there are three key players known collectively as the rating agencies. They are Fitch Investors Service ("Fitch"), Moody's Investors Service ("Moody's"), and Standard & Poor's Corporation ("S&P"). Of these three credit rating agencies, two (Moody's, S&P) publish manuals that outline, among other things, the criteria they use in assigning credit ratings to municipal issuers. This chapter quotes extensively from these two sources.

What Are Ratings?

Simply stated, the credit rating is a benchmark for determining credit risk. The rating agencies are very careful to stipulate that there is no implicit recommendation to invest in a particular security based on its rating. They claim that the credit rating process is or should be isolated from other aspects of the investor's decision to purchase a security, and they point out quite correctly that credit risk is just one factor that an investor should examine prior to purchasing a security. There can be no denying, however, that the opinions of the credit rating agencies do affect the interest-rate levels at which the issue trades in the market and can therefore have a broad influence on the kinds of investors that will purchase a given security.

Who Issues Ratings?

As mentioned above, three independent companies publish credit ratings for both corporate and municipal debt on behalf of the investor community. In their words, the primary goal is to provide objective, unbiased guidelines for assessing credit risk. These agencies achieve this goal using a combination of information supplied by the borrower in the form of the rating presentation or the on-site tour and independent research and analysis. Of the three companies, two are established; the third is currently building its reputation. Beyond the rating process, these companies produce a variety of publications relating to debt.

The two established firms have been in business for well over a half century, rating both corporate and municipal debt as well as a variety of other debt-related obligations including bond insurance companies and other credit providers. Moody's Investors Service has rated municipal debt since 1918, while the Standard & Poor's Corporation has provided its municipal rating services since 1940. Fitch Investors Service has also rated debt for several decades (since 1923) but only recently has become a participant in the municipal rating process.

What Do The Rating Categories Mean?

Although the rating systems used by the agencies are not completely uniform, the basic gradients are similar. This quasi-standardization facilitates understanding the system, but

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"B Bonds which are rated **B** generally lack characteristics of the desirable investment. Assurance of interest and principal payments or maintenance of other terms of the contract over any long period of time may be small.

"Caa Bonds which are rated **Caa are** of poor standing. Such issues may be in default or there may be present elements of danger with respect to principal or interest.

"Ca Bonds which are rated **Ca** represent obligations which are speculative in a high degree. Such issues are often in default or have other marked shortcomings.

"C Bonds which are rated C are the lowest rated class of bonds [by Moody's], and issues so rated can be regarded as having extremely poor prospects of ever attaining any real investment standing."

Moody's also denotes a conditional bond rating by enclosing the rating in parentheses and preceding it with the word **'Con'.** Bonds rated **Aa, A, Baa, Ba,** and **B** may be modified to **Aal, Al, Baal, Bal,** and **Bl** to indicate the "strongest investment attributes" within each category.

For shorter-term debt obligations (notes), Moody's possesses a second, simpler rating system that designates the highest-quality investment-grade obligations as **MIG1** or **VMIG1** and the lowest-quality investment-grade obligations as **MIG4** or **VMIG4,** with suffixes of 2 and 3 reserved for intermediate quality. Notes determined to be below investment grade receive the S.G. ("speculative grade") rating. The justification for a separate system lies in the fact that, for short-term investments, the cyclical nature of the economy is a critical factor in the ability of a typical borrower to make timely principal and interest payments. On the other hand, the repayment of long-term obligations extends through both good and bad economic times, a condition which lessens to overall importance of the national economy. In summary, the credit assessment of short-term obligations takes into account the general economy much more than the assessment of a long-term obligation.

Moody's also possesses an additional system for rating commercial paper, a type of obligation whose maturity extends less than a year, and generally less than 270 days.

"Prime-l Issuers rated **Prime-l** (or supporting institutions) have a superior ability for repayment of senior short-term debt obligations. **Prime-l** repayment ability will often be evidenced by many of the following characteristics:

Leading market positions in well-established industries.
High rates of return on funds employed.
Conservative capitalization structure with moderate reliance on debt and ample asset protection.

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"Speculative grade Debt rated 'BB', 'B', 'CCC', 'CC' or 'C' is regarded as having predominantly speculative characteristics with respect to capacity to pay interest and repay principal in accordance with the terms of the obligation. 'BB' indicates the lowest degree of speculation and 'C' the highest degree of speculation. While such debt will likely have some quality and protective characteristics, these are outweighed by major uncertainties or major risk exposures to adverse conditions.

"BB Debt rated 'BB' has less near-term vulnerability to default than other speculative issues. However, it faces major ongoing uncertainties or exposure to adverse business, financial, or economic conditions which could lead to inadequate capacity to meet timely interest and principal payments. The 'BB' rating category is also used for debt subordinated to senior debt that is assigned an actual or implied **'BBB-'** rating.

"B Debt rated 'B' has a greater vulnerability to default but currently has the capacity to meet interest payments and principal repayments. Adverse business, financial, or economic conditions will likely impair capacity or willingness to pay interest and repay principal. The 'B' rating category is also used for debt subordinated to senior debt that is assigned an actual or implied 'BB' or 'BB-' rating.

"CCC Debt rated 'CCC' has a current identifiable vulnerability to default, and is dependent upon favorable business, financial, and economic conditions to meet timely payment of interest and repayment of principal. In the event of adverse business, financial or economic conditions, it is not likely to have the capacity to pay interest and repay principal. The 'CCC' rating category is also used for debt subordinated to senior debt that is assigned an actual or implied 'B' or 'B-' rating.

"CC Debt rated 'CC' is typically applied to debt subordinated to senior debt which is assigned an actual or implied 'CCC' debt rating.

"C The rating 'C' is typically applied to debt subordinated to senior debt which is assigned an actual or implied 'CCC-' debt rating.

"CI Debt rated 'CI' is reserved for income bonds on which no interest is being paid.

"D Debt rated 'D' is in payment default. The 'D' rating category is used when interest payments or principal payments are not made on the date

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Fitch Investor's Service

From the Public Securities Association's ***Fundamentals of Municipal Bonds*** comes the following description of the Fitch system for long-term obligations:

' 'AAA rated bonds are considered to be investment grade and of the highest quality. The obligor has an extraordinary ability to pay interest and repay principal, which is unlikely to be affected by reasonably foreseeable events.

"AA rated bonds are considered to be investment grade and oh high quality. The obligor's ability to pay interest and repay principal, while very strong, is somewhat less than for AAA rated securities or more subject to possible change over the term of the issue.

"A rated bonds are considered to be investment grade and of good quality. The obligor's ability to pay interest and repay principal is considered to be strong, but may be more vulnerable to adverse changes in economic conditions and circumstances than bonds with higher ratings.

"BBB rated bonds are considered to be investment grade and of satisfactory quality. The obligor's ability to pay interest and repay principal is considered to be adequate. Adverse changes in economic conditions and circumstances, however, are more likely to weaken this ability than bonds with higher ratings.

"BB rated bonds are considered speculative and of low investment grade. The obligor's ability to pay interest and repay principal is not strong and is considered likely to be affected over time by adverse economic changes.

"B rated bonds are considered highly speculative. Bonds in this class are lightly protected as to the obligor's ability to pay interest over the life of the issue and repay principal when due.

"CCC rated bonds may have certain characteristics which, with the passing of time, could lead to the possibility of default on either principal or interest payments.

"CC rated bonds are minimally protected. Default in payment of interest and/or principal seems probable.

"C' rated bonds are in actual or imminent default in payment of interest or principal.

"DDD, DD,

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"PIUS (+) This sign is used after a rating symbol in the first three rating categories to designate the relative position of an issuer within the rating category.

"LOC The symbol (LOC) following any of the above four grades indicates that a letter of credit issued by a commercial bank is attached to the commercial paper note."

How Are Ratings Arrived At?

While each of the rating agencies likes to assert its uniqueness in the market, they all perform fundamentally the same process in issuing municipal ratings. For rating a new debt issuance, the simplest flowchart of the rating process is as follows:

(1) issuer submits application to obtain a rating
(2) analyst team is chosen by rating agency to conduct preliminary research
(3) issuer provides agency with requested material, which analyst team then reviews
(4) members of issuer's governing body or staff meet with rating agencies in New York to make a rating presentation
(5) rating agency professionals visit project being financed and municipalities which benefit (optional)
(6) rating agency team presents analysis and recommendations to rating committee
(7) rating committee, whose membership is on a rotating basis, reviews analysis and assigns a rating
(8) rating agency notifies issuer of the rating
(9) rating is made public

The Application Process

The actual application process merely entails telephoning or writing a rating agency and requesting a rating; the issuer, its financial advisor, or the underwriter on the deal may set up the appointment. Since the rating process requires some time, applications should be submitted at the very least two weeks in advance of a debt sale date. The entire process of course involves the payment of a fee to the rating agencies by the issuer.

Basic Preliminary Research

Once an application has been accepted, a team of analysts begins research in anticipation of the actual rating presentation. Each agency maintains its own library of reference materials that include demographic data, but understandably requires a good deal of issue-specific information not generally available to the public at the time of application for a rating. The documents specifically required by Moody's, for example, include the preliminary official statement, audits or annual financial reports for at least the last three fiscal years, the most recent budget for operations, the capital budget (or planning document), the bond counsel opinion addressing the

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ensure a type of continuity that rating agencies respect. S&P also adds property assessment and valuation procedures to the list of administrative factors to be considered. Past attitudes toward debt including "tax rate and levy limitations, debt limitations, and current unused margin in each of these capacities" are also examined. The rating agencies view a management that is willing to enact politically unpopular but financially sound policies as a better credit than one that simply rides the tide to keep voters happy in the short-term. Incidentally, rating agencies also like a governing body that keeps them well-informed of anything pertinent to the credit rating (which amounts to just about anything). In short, rating agencies prefer management that exercises strong control.

The final category considered important to credit analysis involves the issuer's financial statements. Among the warning signs rating agencies look for in these statements are long-term deficits and unfunded pension liabilities. In general, trends in the operating budget are examined most closely to determine the overall fiscal performance of the issuer.

In summary, the rating agencies tend to examine the same factors in assessing a borrower's credit risk, Experience shows, however, that Moody's and S&P weigh different factors most heavily. S&P responds well to a projective document:, while Moody's tends to focus on past performance. For this reason, it is generally more difficult to obtain a ratings upgrade from Moody's.

Issue-Specific Preliminary Research

In the case of a lease financing, rating agencies express a special concern. The chief focal points include (from ***S&P's Municipal Finance Criteria***[2]):

- general creditworthiness of the lessee (the issuer)
- essentiality of the leased property
- security features in the lease agreement

Because the security for a lease is generally not a direct obligation of the issuer, ratings tend to be lower than for general obligation debt. Lease obligations are technically not classified as debt, so the payment of principal and interest is generally subject to annual appropriation by whatever body controls the purse. For this reason, the essentiality of the project is crucial; where the risk of non-appropriation is high, the credit rating will be low. Beyond the obvious cases of police, fire, utility, and general government administration, S&P offers the following examples of essential projects: "personal property leases for telecommunications systems, fleet purchase of rolling stock such as police and fire vehicles, and centralized computer equipment." For a transit authority, the essentiality of the transit vehicle fleet is unquestionable and need not be of concern to the rating agencies.

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[2] Standard & Poor's Corporation, *S&P Municipal Finance Criteria (New* York: Standard & Poor's Corp., 1989, 97.

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Once the rating committee has determined the credit risk and assigned the rating, it contacts the issuer. Only after the issuer learns of its rating will the information be made public. If the issuer or the issue is high-profile, the rating agencies may also notify industry publications, such as ***The Bond Buyer.***

What Is The Effect of Ratings On The Cost of Borrowing?

The most effective demonstration of the effect of ratings on the cost of borrowing is to compare debt service schedules ***(i.e.*** timetables for repayment of principal with interest, with one payment every six months) for two differently-rated debt issuances. Figures 2-6 and 2-7 are debt service schedules for a hypothetical credit rated 'AA-' and another hypothetical credit rated one notch below, at 'A-'. Figure 2-8 charts the difference in interest on the borrowing. The issue portrayed is a standard for transit equipment issues: $10 million in principal, repaid over 12 years with declining principal payments.

Investment in a weak credit carries more risk than investment in a strong credit. For this reason, the weaker the credit, the greater the interest rate required to compensate the investor for this increased risk. The interest rates in the 'Coupon' columns of Figures 2-6 and 2-7 were derived from an industry-wide standard scale of early September 1991. The scales represent the average yields at which obligations rated 'AA-' and 'A-' have been priced on that day. For the issue with a credit rating of 'AA-', the total bond yield is 6.09% and the total interest payments on a principal of $10 million amount to $3.787 million. At a credit rating merely one category lower, the total bond yield rises to 6.34% and interest payments on a $10 million principal total $3.942 million. The cash savings achieved by an increase in rating from A- to AA- for this debt structure are nearly $155,000. Different debt structures, of course, may increase or decrease savings significantly from these values.

How Does The Ratings Process Influence The Terms Of The Financing?

The world of finance is an ever-changing one, with new approaches to borrowing and investing funds emerging constantly. Inevitably, some of the changes spill over into the public debt market, but not all of these innovations will be immediately embraced by any or all of the market's participants. Especially in dealing with public funds, there is a conservatism borne of the desire to maintain the safety of such moneys. For this reason, "change" almost always carries a negative connotation, a fact which can result in weaker credit ratings for issues that incorporate new features.

In part for this reason, municipal issuers have sought concessions from the rating agencies. The primary concession is the issuance of a preliminary rating. The chief advantage offered to the issuer is the ability to refuse to allow publication of the preliminary rating. As long as the issuer does not sell securities rated on a preliminary basis, the rating is not made public. The preliminary rating process is typically utilized by a municipality that has already structured a debt issue and is

currently examining the possibility of adding a third-party credit guarantee such as bond insurance or a letter of credit. In the event that a preliminary rating without the credit guarantee is lower than the municipality expects, then this issuer realizes the benefit of securing such a guarantee before any official rating is released.

In general, the rating agencies can have a significant effect on the structure of the bond issue. If they possess any doubt that a borrower will be able to make timely debt service payments under a given structure, they most certainly will express this concern in the form of a lower credit rating. Moreover, because the agencies tend to put a great deal of effort into determining the credit risk of a particular debt obligation, they are not likely to retract a recently issued rating, even if the credit risk of an issuer has improved significantly. For this reason, borrowers must anticipate potential rating-agency concerns and make efforts to put any serious doubts to rest.

Pinpointing these concerns can be difficult. For a revenue bond issue, the issuer should be sure before going to a rating agency that, at the very least, the additional bonds tests of previous trust indentures are well covered. The intent of the additional bonds test, which exists only for revenue bond issues, is to assess whether the issuer has pledged sufficient resources to make principal and interest payments on outstanding debt obligations before any new revenue debt is issued. In short, the additional bonds test is designed to protect the interests of the holders of any previously issued revenue bonds. Rating agencies are not going to be comfortable with an issue that passes the additional bonds test by a narrow margin. The issuer in such a situation is well-advised to commit additional resources. The consequence of this trade-off, however, is reduced flexibility on the part of the borrower; pledging revenues for repayment of debt reduces funds available for other purposes. Indeed, determining the balance between securing the highest possible credit rating and maintaining a minimum level of flexibility is a difficult task for the issuer.

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Figure 2-6. Debt service schedule for an AA- credit
$10,000,000 Transit Vehicle Lease Financing
12 years, principal payments declining by $250,000

Date	Principal	Coupon	Interest	Total Debt Service	Annual Debt service
1-Jul-92			293,992.50	293,992.50	
1-Jan-93	950,000	5.050	293,992.50	1,243,992.50	1,537,985.00
1-Jul-93			270,005.00	270,005.00	
1-Jan-94	930,000	5.300	270,005.00	1,200,005.00	1,470,010.00
1-Jul-94			245,360.00	245,360.00	
1-Jan-95	910,000	5.500	245,360.00	1,155,360.00	1,400,720.00
1-Jul-95			220,335.00	220335.00	
1-Jan-96	890,000	5.650	220,335.00	1,110,335.00	1,330,670.00
1-Jul-96			195,192.50	195,192.50	
1-Jan-97	870,000	5.800	195,192.50	1,065,192.50	1,260,385.00
1-Jul-97			169,962.50	169,962.50	
1-Jan-98	850,000	5.950	169,962.50	1,019,962.50	1,189,925.00
1-Jul-98			144,675.00	144,675.00	
1-Jan-99	830,000	6.050	144,675.00	974,675.00	1,119,350.00
1-Jul-99			119,567.50	119,567.50	
1-Jan-00	805,000	6.150	119,567.50	924,567.50	1,044,135.00
1-Jul-00			94,813.75	94,813.75	
1-Jan-01	780,000	6.250	94,813.75	874,813.75	969,627.50
1-Jul-01			70,438.75	70,438.75	
1-Jan-02	755,000	6.350	70,438.75	825,438.75	895,877.50
1-Jul-02			46,467.50	46,467.50	
1-Jan-03	730,000	6.450	46,467.50	776,467.50	822,935.00
1-Jul-03			22,925.00	22,925.00	
1-Jan-04	700,000	6.550	22,925.00	722,925.00	745,850.00
	10,000,000		3,787,470.00	13,787,470.00	13,787,470.00

Dated Data	1-Jan-92	YIELD	6.09874394
Delivery Date	1-Jan-92		
First Coupon	1-Jul-92		

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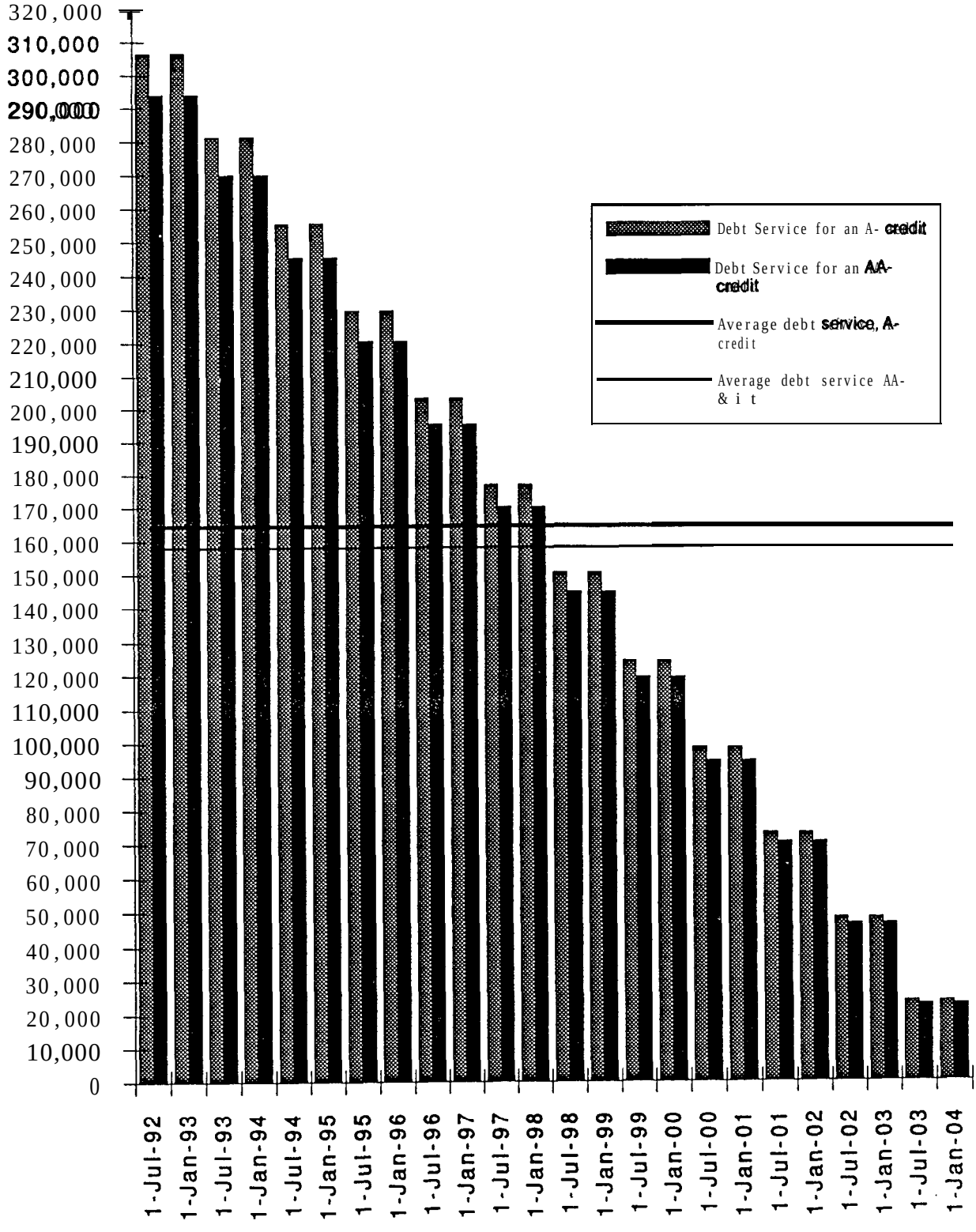
	Delivery Date	1-Jan-92			
	First Coupon	1-Jul-92			

Figure **2-8**

A Comparison of Debt Service Requirements



INVESTMENT OF FINANCING PROCEEDS AND LOCAL CASH

The nature of the public debt market predicates that a borrower obtain sufficient funds to pay for a given project all at one time. For construction projects, the nature of construction itself is diametrically opposed in this regard; ***i.e.*** a given project is never built all at one time. For this reason, an issuer is required by law to invest financing proceeds until they are actually needed for construction purposes. Indeed, for any event for which funds are borrowed through the market, the law does not permit borrowers to allow money to lie idle, because inflation erodes purchasing power surprisingly quickly. At the very least, investment staves off the effects of inflation to help protect public funds.

Elements of an Investment Policy

For those municipal debt issuers sufficiently large or well-heeled to employ in-house investment managers, or for those issuers-big or small-who turn to external, professional firms for investment management services, the best investment policy strives:

- to preserve the principal of financing proceeds
- to maintain needed liquidity to fund projects
- to optimize earnings to the extent that principal is preserved and liquidity is maintained.

Given these basic parameters, the investment manager formulates a comprehensive investment policy, setting forth goals, safeguards, and procedures specifically geared to the issuer's needs. Establishing and institutionalizing such a policy increases the likelihood that future generations of borrowing governments will follow these sound investment guidelines. The policy must be open to amendments and revisions as circumstances require.

A typical investment management approach should address the following guidelines:

- investment objectives and goals
- legislative parameters
- investment policy
- performance, reporting, and accounting
- policies regarding arbitrage rebate
- security safekeeping and custody
- monitoring of compliance with policies

The issuer who enlists the investment manager often has an idea of what the ultimate outcome of its investments should be: a cashflow sufficient to pay for construction costs of a given project. The investment manager is the agent responsible for codifying and, to the extent possible, institutionalizing these objectives to assist future generations of cash managers. The expertise of

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outcome of the audit. In general, by assuming control, it ensures that fiscal matters comply with legal policies.

Appropriate Investments for Public Agencies

Because permitted investments for public agencies in the United States are determined by state or territorial statute, each state has a unique list of obligations it considers to be safe investment vehicles. Some of these statutes, however, were last amended during the particularly favorable economic years of the mid 1980's. As a result, a public agency that follows the typical list of investment guidelines for a fiscally liberal state or territory puts its funds at a risk greater than it might expect. Given the investment climate of this decade thus far, common investments for public agencies are assessed below as to their safety.

United States Treasury Securities.

U.S. Treasury securities ("Treasuries") are divided into three categories: bills, notes, and bonds. These securities command the highest credit rating because the U.S. Government backs each instrument with its "full faith and credit." In every state and territory, these are permitted and recommended investments for public agencies.

Bills. Treasury bills are the most liquid security and are virtually risk-free investments. Also known as "T-bills," they are sold in minimum denominations of $10,000. The Treasury auctions three-month and six-month T-bills each week, and one-year T-bills each month. T-bills are always issued at a discount from face value. Thus, there are no coupon payments to a T-bill holder, and the face value is paid in full to the holder at maturity. What may be the most attractive feature of the T-bill, however, is that it can be liquidated on a moment's notice in its large secondary market. Therefore, a sudden need for cash allows the portfolio manager to sell the issue quickly and easily.

Notes and Bonds. Treasury notes and bonds have longer maturities than do Treasury bills. Another feature that separates these two U.S. Treasury issues from the T-Bill is that notes and bonds are interest-bearing securities; ***i.e.*** investors in these securities receive interest payments every six months. Treasury notes can have initial maturity length of two to 10 years, but typically are issued as two-, three-, four-, five-, seven-, and ten-year notes. Treasury bonds have maturities over ten years, but the 30-year bond attracts the greatest investor interest. Because of their longer maturity, notes and bonds typically yield higher returns than T-Bills, a reflection of the time value of money. These issues are also virtually risk-free because the U.S. Government guarantees the timely payment of their coupons and principal. Notes are sold in $1,000 or $5,000 denominations depending on the maturity term of the notes, while bonds are sold in minimum denominations of $1,000.

Strips. A derivative of U.S. Treasury securities known as a "strip" has recently become a popular investment vehicle. Strips, as the name suggests, are in fact coupons ***(i.e.*** semiannual interest payments) that have been stripped from Treasury notes and bonds. Because Treasury

securities are structured to make interest payments either on May 15th and November 15th or on February 15th and August 15th. Treasury strips are available to mature on those four dates: the 15th of either February, May, August, or November. Consider the following hypothetical Treasury security: a bond with a face value of $1,000,000, a 10% coupon paid on May 15th and November 15th, and a maturity of 20 years. Thus, there will be 40 coupon payments of $50,000 each (10% of $1,000,000 is $100,000; $100,000 divided into two semiannual payments translates into $50,000 per coupon). A securities dealer can strip the security of its 40 coupons, selling each resulting interest strip at a discounted price that takes into account the time value of money. Thus, the $50,000 strip maturing May 15, 1992 will be more expensive today than the strip maturing November 15, 1992, which in turn will be more expensive than the strip maturing May 15, 1993, and so on. The corpus from which the coupons are stripped also becomes a strip in its own right, appropriately called a principal strip. In short, the stripping process has created 41 securities of U.S. Treasury quality from a single Treasury bond. The discount feature, moreover, makes them popular investments, particularly to need-specific, long-term expenditure requirements; they pay interest only at the maturity date, rather than once every six months.

State and Local Government Series. The Treasury Department also offers State and Local Government Series securities (SLGS) to tax-exempt issuers whose financing proceeds are subject to yield restriction or arbitrage rebate requirements. Refer to the section entitled "Federal Arbitrage Considerations" for more detail on the structure and function of these federally-backed obligations.

It is worth noting that municipalities normally invest in relatively short- to intermediate-term investments because the nature of the typical construction schedule draws down a construction fund over the course of just a few years.

United States Federal Agency Securities

These securities ("Agencies") are issued by agencies of the U.S. Government, all of which command the highest credit rating from Moody's (Aaa). Their good credit is bolstered by their ability to sell up $4 billion of its obligations to the U.S. Treasury, depending on the agency issuer. This "sale" is often viewed as a loan from the Treasury to an agency. Agencies include obligations issued by Federal Home Loan Banks (FHLB), the Federal National Mortgage Association (FNMA), the Federal Home Loan Mortgage Corporation (FHLMC), the Federal Farm Credit System, the Student Loan Mortgage Association (SLMA), the Resolution Funding Corporation (REFCORP), and the Government National Mortgage Association (GNMA). Although each security has different minimum purchase requirements, they are all generally sold in round lots of $1 million. An active secondary market facilitates the trading of each security.

The Federal Home Loan Bank System. Organized in 1932, the Federal Home Loan Bank system consists of 12 district banks and issues two types of securities: bonds and discount notes. Its credit is enhanced by its ability to sell up to $4 billion of its obligations to the U.S. Treasury as long as it pledges collateral in an amount equal to or greater than that it borrows. FHLB bonds are issued only in book-entry form and generally have a maturity at issue of one year to ten years, pay interest semiannually, and are not callable. Consolidated bonds are only issued in book-entry

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in multiples of $1,000. Discount notes mature within one year of issue; interest is paid at maturity. They are issued in $5,000 denominations after a minimum purchase of $25,000.

The Student Loan Marketing Association. More commonly known as Sallie Mae, the Student Loan Marketing Association is a stockholder-owned corporation established in 1965 by the Higher Education Act of Congress. SLMA has broad statutory authority to provide liquidity for banks, S&L's, educational institutions, state agencies, and other lenders committed to the support of the credit needs of students attending higher learning institutions, including participants in the Stafford Loan program, the supplemental SLS and PLUS loan programs, and the Health Education Assistance Loan (HEAL) program. SLMA's offers to lenders loan-purchase services, forward commitments, and warehousing advances, as well as automated student loan management systems and services. The standard agency credit rating of Aaa from Moody's is enhanced by SLMA's ability to borrow up to $1 billion from the U.S. Treasury. SLMA issues both short-term floating-rate notes and discount notes to finance its operations. The short-term notes are offered monthly and generally have maturities of three years of longer. They are sold in $5,000 denominations above $10,000. SLMA began issuing these notes in 1984 at a yield related to that on the three-month Treasury bill. SLMA discount notes are debt obligations possessing a maturity of one year or less. They are sold on a daily basis in multiples of $5,000 above the minimum purchase of $100,000. Like all discount notes, however, the actual price paid is below face value, and interest is paid at maturity.

The Government National Mortgage Association. Since its formation in 1968 under provisions of the Housing and Urban Development Act, GNMA, also referred to as Ginnie Mae, has been responsible for the administration of mortgage-support programs which could not be carried out in the private market. GNMA offers two types of debt: mortgage-backed securities and guaranteed pass-through obligations. The first are bonds that represent an undivided interest in a pool of federally insured mortgages which, in turn, means that they are backed by the full faith and credit of the U.S. Government. Thus, they possess the strongest credit of all the federal agencies, making GNMA issues very low-risk investments. The mortgage-backed issues make standard semiannual coupon payments over the life of the security, which ranges from one to 25 years. The other type of GNMA security-pass-through obligations-provide investors with monthly, not semiannual, payments. These payments include both interest and principal because they represent a "pass-through" of the mortgage payments made by the original borrower (the mortgagor) to Ginnie Mae. Given the safety of these securities, the yield is considered to be relatively generous. Pass-through obligations extend 25 to 30 years, but generally have an average life of only 12 years because payments and prepayments are passed through to the investor as pooled mortgages are paid. Because of their longer lives, GNMA securities are not often purchased for portfolios but frequently serve as collateral in repurchase agreements (described below).

Resolution Funding Corporation. Obligations of the Resolution Funding Corporation are the newest Agencies on the market today. REFCORP was created in 1989 under the Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA) to fund the operations of the Resolution Trust Corporation (RTC), its sister agency charged with rescuing bankrupt savings and loan associations. The legislation authorizes REFCORP to issue up to $30 billion in debt

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Money Market Instruments

Money market instruments are mainly investments issued by banks and other reputable financial institutions. These securities are riskier than Treasury securities, agency securities, and repurchase agreements collateralized by Treasuries and Agencies, and require continual credit analysis. Thus, while Treasuries, Agencies, and repurchase agreements collateralized with these two categories of securities are generally universally allowed, fiscally conservative states and territories restrict or often do not permit investment in money market instruments. Where allowed, common money market vehicles in which local governments can invest financing proceeds include commercial paper, bankers' acceptances, and certificates of deposit.

Only commercial paper determined to be of highest quality ***(i.e.*** Moody's "Prime-l" or S&P "A-l") are typically included in permitted investments sections. Commercial paper is, after all, an unsecured promissory note sold on a discount basis with a fixed maturity less than 270 days. In comparison to other money market instruments, commercial paper is not as liquid since no active secondary market exists. Despite these shortcomings, commercial paper of the highest quality is considered by the investment community to entail very little risk. The investor is rewarded for assuming this marginal increase in risk by yields higher than those on T-Bills.

Bankers' acceptances are the money market instrument most often created in conjunction with a foreign trade transaction. In simple terms, a bankers' acceptance is an obligation maturing in less than 180 days, issued by a company, and subsequently guaranteed by a bank. In turn, a third party may choose to purchase such a guarantee or acceptance from a bank, collecting a small fee in return for freeing the bank of its liability. For this reason, bankers' acceptances are sold on a discount basis. Default risk is low; consequently, these instruments sell at only a small spread over the T-Bill rate. Unlike commercial paper, bankers' acceptances are quite marketable and are thus a particularly attractive investment for investors seeking liquidity.

Certificates of deposit (CD's) are defined as interest-bearing, negotiable certificates with a fixed maturity, issued by a commercial bank. Most CD's have an original maturity of one to three months. Because of the slightly larger risk involved, CD's require a higher yield (usually 12 to 15 basis points) than similar Treasury securities to attract investors. Local bank CD's, which are more risky than non-prime-name CD's, command even higher yields. Monthly disbursements of interest, however, do reduce the investor's perception of risk. Variable-rate CD's also exist, with a 30-day period between rate adjustments the rule.

Statewide Bond Proceeds Management Programs

In states where such programs exist (currently California, New Jersey, Pennsylvania, the U.S. Virgin Islands, and Virginia and in the near future in Florida, Massachusetts, and Oregon), these can be ideal investment vehicles. Among the features provided are:

- almost complete liquidity (a day's notice is all that is required to redeem shares)
- a convenient fund withdrawal method
- arbitrage rebate calculation services

- investment in only the highest quality instruments
- individual portfolios, if desired, instead of a pool portfolio
- specialized reports to facilitate arbitrage rebate compliance
- yield-restriction services
- third-party custody of cash and securities
- professional tracking of earnings and expenditures

Unfortunately, as flexible as these programs are, they can be implemented only in states and territories where municipalities and authorities frequently issue public debt. Furthermore, they are not always appropriate for the small-amount borrower. Note that they differ from state general investment pools-which are much more prevalent-in that they are specifically designed to manage financing proceeds. As a result, there are fewer day-to-day withdrawals, allowing for longer-term, higher-yielding instruments to be purchased.

Other Instruments

The permitted investments sections of state and territorial codes frequently include provisions allowing investment of public funds in investment vehicles other than the Treasuries, Agencies, repurchase agreements, money market instruments, and specialized statewide financing proceeds management programs outlined above. Each of these investments contains flaws which compromise either the security of the principal, the liquidity of the portfolio, or the amount of interest earnings.

One of these is the guaranteed investment contract (GIC). On the surface, these instruments offer a great deal of flexibility to the issuer: interest and principal payment dates can be tailored to specific needs. Furthermore, withdrawal schedules can be as flexible as required. For this flexibility, investors pay the price of a solidly fixed rate with little or no liquidity. By fixing the earnings rate, the issuer loses the opportunity to increase yield in the event that general interest rates rise. GIC's have some associated security risk in that not all are fully secured. Others lack the ability to track collateral. Even where collateral is tracked, it is often not "marked to market." The consequence of not marking to market is the potential for erosion in the value of the collateral, which increases the risk to the principal. GIC's have come under fire recently because the financial woes of two major GIC providers, Executive Life and Mutual Benefit, have jeopardized the investments of scores of GIC investors. Furthermore, the Internal Revenue Service continues to raise questions as to whether the interest rates offered to investors are commensurate with the risks involved.

Tax-exempt instruments are another permitted but unwise investment. Frankly, the municipal issuer is tax-exempt itself, so it need not be concerned with the issue of tax-exempt versus taxable investments. Rates on tax-exempt securities, in general, are significantly lower than taxable yields. Moreover, the limited liquidity of tax-exempt securities makes them poor choices for the investor who requires frequent construction draws.

State-sponsored, general investment pools are frequently portrayed as ideal for the unsophisticated bond issuer who wants to spend little time or resources handling investment of

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Because every issuer has unique cashflow requirements, a portfolio consisting of standard securities can rarely be structured to earn a yield equal to the overall bond yield. For this reason, federally-backed investment vehicles known as State and Local Government Series (SLGS) securities have been developed to give issuers additional flexibility (at a price, of course) in choosing maturity dates and rates. The U.S. Treasury currently offers three classes of SLGS, which are non-marketable securities issued to state and local governments only as an investment for proceeds of tax-exempt bond issues that are subject to yield restrictions or rebate requirements under the Internal Revenue Code. The SLGS subscription process is paperwork-intensive and requires a 15-day lead time. Under the right circumstances, these disadvantages are countered by the flexibility that an issuer often needs.

The first type, Time Deposit SLGS, are most frequently used to fund escrows to advance-refund outstanding bond issues. Issuers may select a maturity date and must accept a fixed yield that is determined from market prices of other Treasury securities. A second category consists of Demand Deposit SLGS, which are one-day certificates of indebtedness that are automatically rolled over each day until redemption is requested. Interest on these instruments is a variable rate based upon an adjusted average yield for a three-month Treasury Bill. These rates historically range from 4% to 6%. They are available only for issues smaller than $35 million.

The category of greatest relevance to arbitrage requirements is the Special Zero Interest SLGS, which, as the name suggests, bear no interest. When yields on other short-term Treasury securities are above the bond yield, the municipal issuer may deposit all or a portion of financing proceeds in these instruments to offset higher-than-bond-yield earnings on other investments. Municipalities or investment managers on their behalf choose maturity dates for these investments in order to achieve an exact match between bond yield and portfolio yield. This practice is commonly referred to as "blending down" the portfolio yield. Again, seasoned investment management firms are generally better equipped than the typical issuer to perform the complex analysis required to obtain a perfect match between bond and portfolio yields. Miscalculation on the part of the municipality can easily lead to a higher portfolio than bond yield. No matter how small the spread, however, the federal government requires rebate. In short, the subsequent rebate calculation required by the investment miscalculation can be more costly than simply hiring an investment management firm to perform both tasks.

Municipal borrowers may argue that other tax-exempt securities, because of their lower rates, may be suitable investments to avoid violating arbitrage rules. Given the small size of the secondary market, however, their limited liquidity makes investment in them an unwise choice. Furthermore, the issuer seeking to avoid arbitrage rebate should not deliberately structure a portfolio that earns a yield significantly below the overall bond yield. Rather, Special Zero Interest SLGS were designed to achieve a portfolio yield matching that of the bond issue as a whole.

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Lease Obligation Bonds

For these bonds to not be subject to debt limitations the lessor must be a governmental entity or a non-profit corporation. The lessor issues the bonds and enters into a lease agreement with the governmental unit on whose behalf the bonds were originally issued.

Lease obligation bonds differ from COPS in that the issuer must be of the type described above (a governmental entity or a nonprofit corporation which issues the bonds on behalf of such an entity). As with COPS, the lease payment obligations serve as the security backing of the securities issue.

The title to the facility or equipment being financed by the bonds usually returns to the lessee at the end of the completion of the debt service requirements of the bonds. Lease obligation bonds are sold competitively.

Municipal Leases

As long as the use(s) of the property or facility being finance is of a tax-exempt nature a lease entered into with a for-profit corporation may provide tax-exempt income to investors. A municipal lease is so named due to this tax status; it is a type of financing lease.

Financing Leases and Installment Sale Leases

These two types of leases have only one general difference in their structure. Financing leases provide for the eventual ownership of the leased property at the end of the lease term by one last nominal payment to the lessor; installment sale leases require no such nominal consideration for the transfer of title to the lessee. In both cases the lease is intended to serve as a vehicle for the transfer of ownership of the property to the lessee.

Documents in a Lease Financing

Numerous documents are necessary to thoroughly explain and outline the conditions and characteristics of a leasing arrangement. The rating of the securities issue behind a lease is largely dependent on the information included in these documents.

Lease

The most important document in a lease financing is the actual lease. The participants in the lease are defined as are the terms concerning the rental payments. The nature of the property being financed is explained, as is the financing of any construction projects. The term of the lease, the extent of the rental payments obligations and the application of those payments are all outlined in the lease. Articles pertaining to the operation and maintenance of the property, insurance thereon, and the damage destruction and condemnation provisions are also included. Finally, articles covering the special covenants made by the lessee and outlining the events of default and

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(over non-bank qualified issues). On a $5,000,000 issue this could result in $7,500 to $17,500 in savings. This amount can quite often cover some of the expenses associated with the issuance of the securities (certain fees, etc.).

Small issuer qualifications

The rebate requirement on bonds imposed by Congress provides for exceptions for governmental units issuing less than $5,000,000 annually (for non-private activity purposes). The Internal Revenue Code section 148(f)(4)(C) allows for the rebate exception if the issuer spends at least 95% of the net proceeds from an issue within the specified period. The issuer must, however, first meet the criterion of possessing general taxing powers to issue bonds under the exception provisions outlined in the Code above. As a practical matter, this provision provides a degree of regulatory relief and additional flexibility for small or infrequent issues.

THE USE OF LEASE FINANCING FOR TRANSIT EQUIPMENT AND FACILITIES

Historical Overview

The use of lease financing in conjunction with an PTA capital grant is a relatively recent phenomenon. While many transit agencies have historically provided local match funds from the proceeds of revenue or general obligation bonds, these proceeds were, from the FTA perspective, indistinguishable from cash. Revenue and G.O. bond proceeds when used for local match do not require any title encumbrance, matching of term to asset life or continued beneficial use of the asset.

Lease financings, however, involve several requirements unique from revenue or G.O. bonds and thus raise issues for PTA consideration.

Prior to the enactment of the 1987 Surface Transportation and Uniform Relocation Assistance Act (STURAA), FTA had held the policy position that interest was not an eligible expense under Section 9 or Section 3 grants. The 1987 STURAA contained specific language authorizing the acquisition of equipment and facilities by lease in Section 308.

Specifically, the STURAA amended Section 9 (j) to read, "Grants under this section shall be available to finance the planning, acquisition, construction, improvement and operating costs of facilities, equipment and associated capital maintenance items for use in both operations, lease or otherwise mass transportation service. Grants for construction projects under this section shall also be available to finance the leasing of facilities and equipment for use in mass transportation service, subject to regulations limiting such grants to leasing arrangements which are more cost effective than acquisition or construction..." (Section 9 (j)(1)).

FTA subsequently reached a policy determination that interest as an essential element of lease acquisitions was an eligible expense under both Section 3 and Section 9 in a September, 1991 policy circular.

The STURAA placed two threshold requirements for the use of FTA funds in lease financings. The first is that it must be a ***lease.*** Accordingly, the financing technique employed must be by legal definition, a lease obligation. As such, straight equipment commercial leases, municipal leases, certificates of participation, equipment trust certificates or lease obligation notes or bonds are eligible lease finance vehicles due to their characterization as "lease fmancings".

By contrast, in a situation where a transit agency were to attempt to issue revenue bonds for a fixed term and then seek to use its annual Section 9 capital apportionment for the debt service payment, FTA would not approve the use of FTA funds because the principal and interest payment on the revenue bonds would not be legally considered a lease payment.

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Pros and Cons of Financing vs. Pay-As-You-Go.

The utilization of lease financing can present several advantages to transit agencies. it can also provide elements of risk and additional cost. The primary advantages to a lease approach are as follows:

I. Present value savings are achieved.

Present value analysis it the measurement of the value of funds measured in constant dollars. By using present value analysis, a transit agency can determine if higher costs due to interest paid in future, are comparable to lower costs paid today in cash. Present value analysis is the basis of making pay-as-you-go vs. financing decisions. Present value analysis can be used to evaluate inflation savings, the value of higher earnings on cash or the effect of interest rate differentials in borrowing cost.

FTA has defined the basis of the cost effectiveness decision as being a demonstration of present value savings. To date, all financings utilizing Federal grant support have generated significant present value savings either by demonstrated inflation savings or by increased earnings on local share funds invested at a higher rate.

2. Assets with a short useful life may be acquired more efficiently.

The original intent for the leasing authority continues to provide an important advantage for transit agencies. Assets such as computers, furniture, automobiles or the like, can be acquired for the term of its use without the transit agency being required to acquire the asset at its full cost and then be left with obsolete equipment or used property disposition requirements.

Transit service that is temporary or related to special events like the Olympics can be implemented on a as-needed basis without the cost of owning assets needed for only a short time. This provision is particularly useful for contracted service delivery.

3. Acquisition time can be reduced.

Historically, when the annual Section 9 allocation was insufficient to fully fund bus replacement or project costs, transit agencies either "banked" Section 9 funds, segmented the procurement, or augmented their Section 9 with additional local funds beyond the statutory match. Generally this had the effect of increasing the project cost due to inflation, smaller vehicle procurements and erosion in the purchasing power of banked funds. To the extent that necessary vehicle replacements were postponed, maintenance costs increased and service degradation also resulted.

A lease financing approach allows a transit agency to fund the full amount of a project by borrowing against its future revenue stream. This has the result of avoiding inflation costs and potentially allowing for a unit discount on a larger procurement size. Fleet replacements can be planned based on useful life considerations rather than available revenue flow.

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more traditional grant structure. In Section 3 financings, FTA has allowed the Federal share to be concentrated in a percentage of the project equal to the Federal share of the grant, i.e. 75 out of 100 buses have a 100% Federal interest, 25 buses out of 100 have a 100% local interest. This flexibility is helpful to the transit agency and supportive of the needs of the lease finance approach. More recent policy decisions by the FTA indicate that title separation may no longer be required in future financings.

In addition to these advantages, lease financings involving Federal funds entail some level of risk. The most notable are the following:

I. Authorization Risk.

In entering into a Section 9 supported financing, the transit agency is assuming that Congress will continue to authorize FTA and the formula assistance program for the life of the financing. Because FTA is reauthorized by the Congress every one to five years, there is a chance that the program will be abolished, leaving the local agency obligated for debt service that had assumed to be paid on a 80% Federal participation basis. As a rule, the longer the term of the financing, the greater the level of authorization risk.

To mitigate against authorization risk, FTA has generally followed the practice of requiring a demonstration at the time of the financing that the transit operator has sufficient local resources to make the debt service payment in the event that ETA were to fail to be reauthorized. In addition, the rating agencies substantially discount the value of the FTA funding in evaluating the credit standing of the transit agency issuer, thus requiring a greater demonstration of local resources.

2. Appropriations Risk.

The second major risk is appropriations risk. While there is general consensus that a Federal transit formula assistance program will be continued, the level of that program is subject to the Congressional appropriations process. This can result in annual reductions in the amount of Section 9 funds available to the urbanized areas and in cases where Section 9 has been significantly leveraged; this can result in Section 9 not being sufficiently available to make the full Federal share of debt service. This situation would require the transit agency to make a higher local share payment. This risk is generally avoided by the Section 9 recipient limiting the amount of the Section 9 allocation used for debt service to a range of 60% or lower. The balance of the Section 9 allocation is then used for pay-as-you-go projects.

3. Changes in the matching ratio.

Each time the FTA formula assistance program is reauthorized, Congress may choose to change the matching ratio of Federal and local funds. In recent years, that has occurred with Section 3 and was proposed by the administration in 1991 for the Section 9 program. Should the Federal matching ratio change during the term of a financing, debt service paid out from the Federal fiscal year allocation subject to the change would be at the reduced ratio. Thus, a financing that began as a 80%-20% project could end in its later stages of debt payment at 60%-

more traditional grant structure. In Section 3 financings, FTA has allowed the Federal share to be concentrated in a percentage of the project equal to the Federal share of the grant, i.e. 75 out of 100 buses have a 100% Federal interest, 25 buses out of 100 have a 100% local interest. This flexibility is helpful to the transit agency and supportive of the needs of the lease finance approach. More recent policy decisions by the FTA indicate that title separation may no longer be required in future financings.

In addition to these advantages, lease financings involving Federal funds entail some level of risk. The most notable are the following:

I. Authorization Risk.

In entering into a Section 9 supported financing, the transit agency is assuming that Congress will continue to authorize FTA and the formula assistance program for the life of the financing. Because FTA is reauthorized by the Congress every one to five years, there is a chance that the program will be abolished, leaving the local agency obligated for debt service that had assumed to be paid on a 80% Federal participation basis. As a rule, the longer the term of the financing, the greater the level of authorization risk.

To mitigate against authorization risk, FTA has generally followed the practice of requiring a demonstration at the time of the financing that the transit operator has sufficient local resources to make the debt service payment in the event that ETA were to fail to be reauthorized. In addition, the rating agencies substantially discount the value of the FTA funding in evaluating the credit standing of the transit agency issuer, thus requiring a greater demonstration of local resources.

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substitution and use of insurance proceeds cover the destruction of vehicles or accident damage situations).

What Can Be Financed?

Leasing statutes in most states allow for the lease financing of nearly all capital assets. From a transit perspective this includes buses, rail cars, rail stations, catenary electric systems, support vehicles, transit maintenance bases, fuel storage facilities, administration buildings, bus shelters and park and ride lots. It can also include equipment, computers, desks, etc.

Expenses that are usually characterized as operating expenses, such as fuel, wages, benefits, non-durable supplies, i.e. paper, oil, etc., are not eligible for lease financing.

In addition to being a capital asset, two additional tests exist for lease financing: first, the asset should be considered ***essential*** to the governmental purpose of the transit agency. Clearly, acquiring buses for a transit agency passes the essentiality test. If, for example, a transit agency sought to finance a fire truck on the theory that it was needed for bus fires, serious questions would be raised by the rating agencies.

Essentiality is considered important because rating agencies perceive that the potential of an issuer abandoning the asset and suspending lease payments is less, the greater the level of essentiality. Standard and Poor's lists project essentiality along with general credit-worthiness and the security features of the lease as necessary prerequisites to even receiving a rating.

The burden of essentiality rests with the issuer and the rating agencies recognize differing circumstances between transit agencies.

The second test is called the ***private activity test.*** Transit agencies may not use their tax-exempt debt authority to acquire assets that are used for the private beneficial gain of non-governmental businesses or individuals. For transit agencies, the primary impact of this test is when the buses are operated by private sector contractors. The private activity test does not prohibit contract operation but it does place certain restrictions on the terms and conditions of such contracts.

Private contractors may operate tax-exempt financed buses as long as the operation of the buses is done as part of the public service function of the transit agency. Compensation to the operator should be based on a contract fee, not solely based on the fare box revenue. The term of the contract should not be coterminous with the term of the financing. The buses should not be operated in private charter service. The following examples illustrate the effect of the private activity test:

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like this: The transit agency is building a new maintenance base that is expected to take two years to acquire and construct. On the day the COPS are issued, the transit agency provides a lien on its existing administration building as collateral. The substituted asset must be free of any title encumbrances and must have a value equal to, or in excess of, the asset being financed. Because the administration building is immediately available, there is no required capitalized interest period. In the event of default or abandonment of the new maintenance base, the administration building would be the asset securing the financing. When the maintenance base in completed and occupied, the encumbrance on the administration building is transferred to the new facility and clear title is again perfected for the administration building. Asset transfers with substitution clauses are widely used in conjunction with COP financings.

FTA has, to date, not participated in capitalized interest payments because they are considered an expenditure prior to receipt and beneficial use of the asset. In addition, capitalized interest payments would have the effect of requiring FTA to make additional payments, i.e. thirteen years of payments for a twelve year asset. After completion of the capitalized interest period, when the asset is in place, FTA does allow the capitalized interest costs to be amortized over the life of the financing, provided however, that concurrence is obtained as part of the cost effectiveness finding.

Term of the Financing

The term of the financing is the time required to amortize the debt and repay the certificate holders. Generally the term of the financing is tied to the useful life of the underlying asset. Accordingly, buses are usually financed for a term of twelve years while land and facilities are financed for a period of twenty or more years. Certain other items may have differing terms. For example, computer systems are usually not financed beyond three years. This represents not only an estimate of the useful life of the asset, but a recognition that technological change may erode the essentiality of the computer system if it is financed for a longer term.

Transit buses provide an interesting issue relative to the underlying asset value and the level of outstanding debt. With capital facilities and land, the underlying assets are generally presumed to increase in value with time following construction. Accordingly, the underlying asset value will be increasing while the level of outstanding debt decreasing. For this reason, it is appropriate to structure facility and land financings with ***level debt service.*** This means that the annual debt service will stay approximately the same for the full term of the financing. In this approach, principal reduction is heavily weighed to the back end of the loan term.

With buses, however, the asset value begins to diminish almost immediately as the buses are put into service. As a result, if a level debt service approach was used, the value of the underlying asset would soon be significantly lower than the amount of outstanding debt. Since the asset is often a form of security for the financing, COP holders have a diminished level of security.

For this reason, those bus financings involving FTA participation undertaken to date have used a ***level principal reduction*** structure. With level principal reduction the debt on the buses is fully retired in a straight line twelve year manner. This structure is important for PTA. Because it

truly allows the Federal agency to purchase service, both principal and interest, in one-twelfth increments.

Level principal reduction also has the effect of reducing the risk from Federal non-appropriation, non-authorization and matching share changes.

In the level principal structure, debt service is higher at the beginning of the financing but declines each year. This has the result of producing a lower true interest cost for the financing as shown in Table 3-1:

Table 3-1

Summary Table - Total Debt Service for Two Financings

TIC	6.1056944%	6.1695005%		
Date	Declining DS Financing	Level DS Financing	Advantage of Declining Debt Service	Present Value of Total Debt Service
2/1/92	298,849.39	304,019.31	5,169.92	5,015.99
8/1/92	1,248,849.39	994,019.31	(254,830.08)	(239.88123)
2/1/93	275,811.89	287,286.81	11,474.92	10,480.16
8/1/93	1,225,811.89	1,012,286.81	(213,525.08)	(189,208.23)
2/1/94	251,349.39	268,618.06	17,268.67	14.846.46
8/1/94	1,201,349.39	1,028,618.06	(172,731.33)	(144,081.37)
2/1/95	225,699.39	248,098.06	22.398.67	18,127.24
8/1/95	1,175,699.39	1,048,098.06	(127,601.33)	(100,193.02)
2/1/96	199,099.39	225,698.06	26.598.67	20,263.53
8/1/96	1,149,099.39	1,070,698.06	(78,401.33)	(57949.71)
2/1/97	171,786.89	201,404.31	29.617.42	21,239.68
8/1/97	1,116,786.89	1,096,404.31	(20382.58)	(14,181.84)
2/1/98	143.90939	175,001.81	31.092.42	20,989.44
8/1/98	1,088,909.39	1.125.001.81	36,092.42	23,639.32
2/1/99	115323.14	146,264.31	30,941.17	19,662.04
8/1/99	1,060,323.14	1,151,264.31	90941.17	56,069.30
2/1/00	86,264.39	115,360.56	29,096.17	17,404.97
8/1/00	1,031,264.39	1,185,360.56	154,096.17	89,433.86
2/1/01	56,733.14	81,923.06	25,189.92	14,184.36
8/1/01	1,001,733.14	1,216,923.06	215,189.92	117,564.89
2/1/02	26,729.39	45,886.81	19,157.42	10,154.66
8/1/02	971,729.39	1.250.886.81	279,157.42	143,565.62
2/1/03	(3,746.86)	7,025.56	10,772.42	5,375.11
8/1/03	(195246.86)	155.52556	350,772.42	169,813.53
	13,924,117.89	14,441,673.52	517,555.63	32,334.77
Discounted at:		6.1375974807%		

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Discounted at: 6.1375974807%

upon maintaining certain service levels (such as is the case with Section 9 supported financings), is reduced as a result of such an event.

Reserve requirements

In order to secure an investment grade rating it is usually necessary to maintain a debt service reserve equal to the lesser of 10% of the par value of the issue or the maximum annual lease payment. The debt service reserve is invested at a rate equal to the bond yield and thus entails no additional interest cost to the issuer. The debt service reserve is used by the trustee to pay COP holders in the event the transit agency fails to make a payment.

Trust agreement

The trust agreement between the transit agency and the trustee directs the trustee to do certain things on behalf of the bond holders including investment of proceeds, maintenance of specific accounts, enforcing covenants by the issuer and the disposition of excess funds.

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CHAPTER IV
FTA SUPPORTED FINANCINGS

The most significant issues involving FTA are the following:

Cost effectiveness issues

Before proceeding with an FTA backed lease financing, a threshold finding of cost effectiveness must be reached. FTA has generally taken the position that cost effectiveness is demonstrated by a finding of present value savings of financing over paying cash. This calculation is often different between transit agencies due to differing assumptions on project delivery schedules, costs of inflation, credit standing and borrowing costs as well as reinvestment opportunities on remaining cash. Because public transit agencies should always enjoy higher taxable investment opportunities compared to tax-exempt borrowing rates, a cost effectiveness finding should generally be easily made. Other factors such as additional projects advanced, faster project delivery, discounts for larger orders and operational savings may also be factored into the cost effectiveness finding.

Federal guarantee issues

Because securities lose their tax-exempt status if they are supported by a guarantee of the Federal government to pay debt service, the FTA funding component for the debt security cannot be guaranteed. This issue arises in the Section 9 context when Federal dollars are actually used for debt service. Bond Counsel has held that the Federal guarantee issue is avoided when there is no direct commitment from FTA to pay debt service for the life of the loan, where the FTA funding is contingent upon authorization and appropriation, where FTA explicitly indicates no guarantee exists, where there are other non Federal funding sources, in addition to the FTA funds, available to pay debt service, and where non Federal sources (such as is the case with local match funds) are also actually used for debt service.

Continuing control issues

Historically, the requirement that a grantee maintain continued satisfactory control of assets purchased with Federal funds has prevented transit agencies from encumbering the Federal interest in any transit equipment without pre-approval of PTA. This provision is necessary for FTA to fulfill its obligations under ISTEA.

This issue is important because in a COP financing it is often necessary to allow title for the vehicles to be held by the trustee for the benefit of the COP holder.

In a Section 9 financing, FTA has taken the position that it is buying the services of the vehicle "one year at a time." At any given time the FTA exposure to the loss of the asset is only for one-twelfth of the initial value of the equipment. This allows the vehicles to be pledged as security for the transaction.

In the Section 3 context, FTA has traditionally allowed transit agencies to consolidate the 25% local interest entirely in 25% of the assets, instead of retaining a 25% undivided interest in 100% of the assets. The locally funded vehicles are then financed. Through this approach, FTA

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days prior to a scheduled debt service payment. In no event may grantees earn and keep interest on Section 9 funds awaiting expenditure.

The uncertainty inherent in this process can create specific problems for grantees concerned with making timely debt service payments.

The simplest way to avoid a delay in drawdown of Section 9 funds is to include the following year's lease installments as "contingency projects" in each annual program of projects. This enables grantees to advance lease payments from approved grant funds if there is a delay in funding the next annual Section 9 grant. This also serves as preaward authority for the payment of local funds toward the lease (ensuring that advanced funds remain eligible for reimbursement) and obviates the need for a "letter of no prejudice" from FTA.

Generally, the earlier debt service is funded, the stronger the credit will appear to the rating agencies and investors. In the recent California COP financings, participating agencies agreed to fund the debt service payment one year in advance from local sources. Here again, local funds were advanced prior to release of Federal funds.

Use of farebox proceeds

Section 9 of the UMT Act provides that the local match for Section 9 projects shall be provided "...in cash from sources other than Federal funds or revenues from the operation of public mass transportation systems. Any public or private transit system funds so provided (as local match), shah be solely from undistributed cash surpluses, replacement or depreciation funds or reserves available in cash or new capital."

The effect of this provision is to prevent farebox revenues from being included in a pledge to repay debt service from "all available revenues." FTA prohibits transit operators from using farebox revenue as a source of payment on an debt obligations and such a provision has been included in the official statement of previous FTA supported financings.

The practical effect of this provision is minimal since most transit systems fail to produce excess revenue from the farebox after operations. Accordingly, allocating the revenues to operations rather than capital is in fact a basic industry practice. Even if transit agencies were able to use farebox revenues for debt service nearly all could not because of the need to fund operating deficits.

From the COP holders perspective however this is a potentially important provision because it-removes a major revenue generator from the potential sources of repayment. In doing so, it reduces the ratio of revenues vs. debt service payment and thus affects the credit quality of the COPS.

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Section 9

In a Section 9 financing the transit agency issues lease obligations, i.e., COPs, for the full value of the project including both the Federal and the local share costs. Authority to proceed with the financing is provided by FTA following a finding of cost effectiveness and confirmation that the financing approach is in fact a lease obligation. The form of FTA approval is a letter consenting to the financing and outlining the limits on FTA support in the future. Application for concurrance in the findings of cost efficiencies is initially made to the FTA regional offices, The thrust of the FTA approval is to allow future years' Section 9 funds to be used for debt service, assuming continued and sufficient funding of the FTA formula assistance program, compliance with match requirements, continuing to use the asset in transit service, and compliance with all other grant terms and conditions.

PTA has also required a finding that the local agency has sufficient local resources to make the full debt service payment in the event FTA were to cease as a grant making agency unless grantee chooses full obligation of the stream of payments in the first year.

Lease obligations are sold in the capital markets. At the time of the first principal and interest payments attributable to the project, (FTA does not participate in payment for the capitalized interest funds in the initial years). The grantee is eligible to utilize Section 9 funds equal to the Federal match share (currently 80%) for the net debt service. Net debt service is after application of interest earnings on the debt service reserve fund. The Federal share is contingent on an annual certification that the asset continues in transit service.

The transit agency must match each Federal dollar at the time of expenditure with the required local share. Any investment earnings on local funds that would otherwise have been used to match the grant on a pay-as-you go basis are available to the transit agency.

At the option of the transit agency, the assets being financed may be used as additional security for the COPs.

The following chart (Figure 4-l) indicates the flow of funds.

Section 9

In a Section 9 financing the transit agency issues lease obligations, i.e., COPs, for the full value of the project including both the Federal and the local share costs. Authority to proceed with the financing is provided by FTA following a finding of cost effectiveness and confirmation that the financing approach is in fact a lease obligation. The form of FTA approval is a letter consenting to the financing and outlining the limits on FTA support in the future. Application for concurrance in the findings of cost efficiencies is initially made to the FTA regional offices, The thrust of the FTA approval is to allow future years' Section 9 funds to be used for debt service, assuming continued and sufficient funding of the FTA formula assistance program, compliance with match requirements, continuing to use the asset in transit service, and compliance with all other grant terms and conditions.

PTA has also required a finding that the local agency has sufficient local resources to make the full debt service payment in the event FTA were to cease as a grant making agency unless grantee chooses full obligation of the stream of payments in the first year.

Lease obligations are sold in the capital markets. At the time of the first principal and interest payments attributable to the project, (FTA does not participate in payment for the capitalized interest funds in the initial years). The grantee is eligible to utilize Section 9 funds equal to the Federal match share (currently 80%) for the net debt service. Net debt service is after application of interest earnings on the debt service reserve fund. The Federal share is contingent on an annual certification that the asset continues in transit service.

The transit agency must match each Federal dollar at the time of expenditure with the required local share. Any investment earnings on local funds that would otherwise have been used to match the grant on a pay-as-you go basis are available to the transit agency.

At the option of the transit agency, the assets being financed may be used as additional security for the COPs.

The following chart (Figure 4-l) indicates the flow of funds.

TEST CASE #1 - SECTION 9 FINANCING

Bus Procurement

Sourcrr and Uses

Sources		
Bond Proceeds		11,365,000.00
Total		11,365,000.00
Uses		
Bus Acquisition Fund		10,000,000.00
DSRF		1,136,500.00
Cost of Issuance	(2.00%)	227,300.00
Contingency		1,200.00
Total		11,365,000.00

Cash Flnanclng Assumptlons

Federal	8,000,000.00
Local	2,000,000.00
Total	10,000,000.00
Federal Share =	80.000%
Local Share =	20.000%

Acquisition Assumptions

Buses	40.00
Cost	250,000.00
Total Cost	10,000,000.00

Prepared by Public Finandal Management, Inc.

TEST CASE #1 - SECTION 9 FINANCING
Bus Procurement
Sources and Uses

Sources		
Bond Proceeds		11,365,000.00
Total		11,365,000.00
Uses		
Bus Acquisition Fund		10,000,000.00
DSRF		1,136,500.00
Cost of Issuance	(2.00%)	227,300.00
Contingency		1,200.00
Total		11,365,000.00

Cash Flnanclng Assumptlons

Federal	8,000,000.00
Local	2,000,000.00
Total	10,000,000.00
Federal Share =	80.000%
Local Share =	20.000%

Acquisition Assumptions

Buses	40.00
Cost	250,000.00
Total Cost	10,000,000.00

Prepared by Public Finandal Management, Inc.

TEST CASE #1 - Section 9 Debt Service Schedule

Savlnge Analyals -12 Year Daclllnlng **Service**

Dale	Total Net Debt Service	20.00% Present Value of Local Share of Debt Service	Present Value of Local Share of Debt Service	60.00% Present Value of Federal Share of Debt Service	Present Value of Federal Share of Debt Service	Local Funds Beginning Balance	Investment Rate	Interest Earnings	Debt Service Draw	Ending Balance	Present Value of Interest Earnings
5/1/92	298,849.39	59,769.88	57,719.20	239.079 51	230.67661	2000,000	7.106%	71.057	59,770	2,011,287	68,619
11/1/92	1,248,849.39	249,769.88	232,924.93	999,079 51	931.699 72	2,011,287	7.106%	71,458	249,770	1,832,975	66,639
5/1/93	275.011 a9	55,162.38	49,677.17	220,649.51	198.708 66	1,832,975	7.106%	65,123	55.162	1,842,936	56,647
11/1/93	1,225,811.89	245,162.38	213.209.06	980,649.51	852,836.22	1,842,936	7.106%	65.477	245,162	1,663,250	56,943
5/1/94	251.34939	50,269 88	42,216.00	201,079 51	168,871.98	1.663.250	7.106%	59,093	50.270	1.672.073	49,628
11/1/94	1.201.34939	240,269.88	194,861.96	961,079.51	779,447.83	1,672,073	7.106%	59,406	240,270	1,491,209	48,179
5/1/95	225,690 39	45,139.88	35,352.98	Isa.559 51	141.411 93	1,491,209	7.106%	52,980	45.140	1.499.050	41,494
11/1/95	1,175,699.39	236.138 88	177,640.20	940,559 51	711.360.79	1,499,050	7.106%	53,259	235,140	1,317,169	40.281
5/1/96	lQQ.0Q9.39	39,819.88	29,083.16	159.279.51	116,332.62	1,317,169	7.106%	46.797	39,820	1,324,146	34,179
11/1/96	1,149,099.39	22Q.61Q.66	162.094.06	919,279.51	648,376.31	1,324,146	7.106%	47,045	229.820	1,141,371	33,181
5/1/97	171.766 89	34,357.38	23,401.17	137.429 51	93,604.67	1,141,371	7.106%	40,551	34,357	1,147,564	27,620
11/1/97	1.116.76669	223,357.38	146.Q11.49	893,429 51	667.64587	1,147,564	7.106%	40.771	223,357	964.978	26.817
5/1/98	143,909.39	28,781 a6	18,281.53	116.12751	73.12612	964,970	7.106%	34,284	28,782	970.481	21.776
11/1/98	1,088,909.39	217,781.88	133,583.59	871,127 51	534.334.37	970.481	7.106%	34,460	217,782	787,170	21,149
5/1/99	115.323.14	23,064.63	13.662.05	92,258.51	54,646.19	787,178	7.106%	27,967	23,065	792,081	16,566
11/1/99	1,060,323.14	212.06463	121.304.11	646,258 51	465.216 45	792,081	7.106%	28,141	212,065	608,158	16,097
5/1/00	86,264.39	17.252 88	9,530.31	69.011 51	36,121.22	608,158	7.106%	21.607	17,253	612,512	11,935
11/1/00	1.031.264 39	206,252.88	110.02283	625.011.61	440,091.73	612,512	7.106%	21,762	206,253	428,021	11,606
5/1/01	56,733.14	11,346.63	5,845.05	45.36651	23,380.19	428,021	7.106%	15,207	11,347	431.881	7,834
11/1/01	1,001,733.14	2w.346.63	99,664.65	801,386.51	368.65860	431,881	7.106%	15,344	200,347	246,878	7,633
5/1/02	26,729.39	6,345 88	2566.12	21.363 51	10.272 50	246,878	7.106%	8,771	5,346	250,304	4,214
11/1/02	971,729.39	194,345.88	90,159.26	777,383 51	360.63705	250,304	7.106%	8,893	194,346	64,851	4,126
5/1/03	(3.746.66)	(749.37)	(335.71)	(2,997.49)	(1,342.66)	64,851	7.106%	2,304	(749)	67,904	1,032
11/1/03	(195,246.66)	(39,049.37)	(16,893.71)	(156,197.49)	(67.574.63)	67,904	7.106%	2.413	(39,049)	109,366	48,358
	$13,924,118	$2,784,824	$1,952,686	$11.139294	$7,810,742			$894,190	$2,784,824		$724,555

Discounted at: 7.1057%
Reinvested at: 7.1057%

TEST CASE #1 - Section 9 Debt Service Schedule

Savlnge **Analysis** -12 Year **Declining** Service

Dale	Total Net Debt Service	20.00% Present Value of Local Share of Debt Service	Present Value of Local Share of Debt Service	80.00% Present Value of Federal Share of Debt Service	Present Value of Federal Share of Debt Service	Local Funds Beginning Balance	Investment Rate	Interest Earnings	Debt Service Draw	Ending Balance	Present Value of Interest Earnings
5/1/92	298,849.39	59,769.88	57,719.20	239.079 51	230.67661	2000,000	7.106%	71.057	59,770	2,011,287	68,619
11/1/92	1,248,849.39	249,769.88	232,924.93	999,079 51	931.699 72	2,011,287	7.106%	71,458	249,770	1,832,975	66,639
5/1/93	275.011 a9	55,162.38	49,677.17	220,649.51	198,708 66	1,832,975	7.106%	65,123	55.162	1,842,936	58,647
11/1/93	1,225,811.89	245,162.38	213.209.06	980,649.51	852,836.22	1,842,936	7.106%	65.477	245,162	1,663,250	56,943
5/1/94	251.34939	50,269 88	42,216.00	201,079 51	168,871.98	1.663.250	7.106%	59,093	50.270	1.672.073	49,628
11/1/94	1.201.34939	240,269.88	194,861.96	961,079.51	779,447.83	1,672,073	7.106%	59,406	240,270	1,491,209	48,179
5/1/95	225,690 39	45,139.88	35,352.98	190.559 51	141.411 93	1,491,209	7.106%	52,980	45.140	1.499.050	41,494
11/1/95	1,175,699.39	236.138 88	177,640.20	940,559 51	711.360.79	1,499,050	7.106%	53,259	235,140	1,317,169	40.281
5/1/96	lQQ.0Q9.39	39,819.88	29,083.16	159.279.51	116,332.62	1,317,169	7.106%	46.797	39,820	1,324,146	34,179
11/1/96	1,149,099.39	229,819.88	162.094.06	919,279.51	648,376.31	1,324,146	7.106%	47,045	229.820	1,141,371	33,181
5/1/97	171,788 89	34,357.38	23,401.17	137.429 51	93,604 67	1,141,371	7.106%	40,551	34,357	1,147,564	27,620
11/1/97	1,116,786.89	223,357.38	146.Q11.49	893,429 51	667.64587	1,147,564	7.106%	40.771	223,357	964.978	26.817
5/1/98	143,909.39	28,781 a6	18,281.53	116.12751	73.12612	964,970	7.106%	34,284	28,762	970,481	21.776
11/1/98	1,088,909.39	217,781.88	133,583.59	871,127 51	534.334.37	970.481	7.106%	34,480	217,782	787,170	21,149
5/1/99	115.323.14	23,064.63	13.662.05	92,258.51	54,646.19	787,178	7.106%	27,967	23,065	792,081	16,566
11/1/99	1,060,323.14	212.06463	121.304.11	646,258 51	465.216 45	792,081	7.106%	28,141	212,065	608,158	16,097
5/1/00	86,264.39	17.252 88	9,530.31	69.011 51	36,121.22	608,158	7.106%	21.607	17,253	612,512	11,935
11/1/00	1.031.264 39	206,252.88	110.02283	825,011.51	440,091.73	612,512	7.106%	21,762	206,253	428,021	11,606
5/1/01	56,733.14	11,346.63	5,845.05	45.36651	23,380.19	428,021	7.106%	15,207	11,347	431.881	7,834
11/1/01	1,001,733.14	2w.346.63	99,664.65	801,386.51	398,658.60	431,881	7.106%	15,344	200,347	246,878	7,633
5/1/02	26,729.39	6,345 88	2566.12	21.363 51	10.272 50	246,878	7.106%	8,771	5,346	250,304	4,214
11/1/02	971,729.39	194,345.88	90,159.26	777,383 51	360.63705	250,304	7.106%	8,893	194,346	64,851	4,126
5/1/03	(3.746.66)	(749.37)	(335.71)	(2,997.49)	(1,342.66)	64,851	7.106%	2,304	(749)	67,904	1,032
11/1/03	(195,246.86)	(39,049.37)	(16,893.71)	(156,197.49)	(67.574.63)	67,904	7.106%	2.413	(39,049)	109,366	48,358
	-$13,924,116	$2,784,824	$1,952,686	$11.139294	$7,810,742			$894,190	$2,784,824		$724,555

Discounted at: 7.1057%

Reinvested at: 7.1057%

TEST CASE #2 - SECTION 3 FINANCING
Bus Procurement
Sources and Uses

Sources

Bond Proceeds	2,845,000.00
Total	2,845,000.00

Uses

Bus Acquisition Fund		2,500,000.00
DSRF		284,500.00
Cost of Issuance	(2.00%)	56,900.00
Contingency		3.600.00
Total		2,845,000.00

Cash Flnanclng Assumptions

Federal	0.00
Local	2,500,000.00
Total	2,500,000.00
Federal Share =	0.000%
Local Share =	100.000%

Acquisition Assumptions

Buses	40.00
cost	250,000.00
Total Cost	10,000,000.00

Prepared by Public Finandal Management, Inc.

TEST CASE #2 - SECTION 3 FINANCING
Bus Procurement
Sources and Uses

Sources

Bond Proceeds	2,845,000.00
Total	2,845,000.00

Uses

Bus Acquisition Fund		2,500,000.00
DSRF		284,500.00
Cost of Issuance	(2.00%)	56,900.00
Contingency		3.600.00
Total		2,845,000.00

Cash Flnanclng Assumptions

Federal	0.00
Local	2,500,000.00
Total	2,500,000.00
Federal Share =	0.000%
Local Share =	100.000%

Acquisition Assumptions

Buses	40.00
cost	250,000.00
Total Cost	10,000,000.00

Prepared by Public Finandal Management, Inc.

TEST CASE **#2 - Section** 3 Debt Servlcr **Schedule**

Savings Analysis - 12 'fear Declllnlng **Service**

Dale	Total Net Debt Service	100.00% Local Share of Debt Service	Present Value of Local Share of Debt Service	0.00% Federal Share of Debt Service	Present Value of Federal Share of Debt Service	Local Funds Beginning Balance	Investment Rate	Interest Earnings	Debt Service Draw	Ending Balance	Present Value of Interest Earnings
5/1/92	74,765.18	74,765.18	72,200.77	0.00	0.00	2,500,000	7.104%	88,795	74,765	2,514,029	85,749
1111192	314,765.18	314,765.18	293,542 86	0.00	0.00	2.514.029	7.104%	89,293	314,765	2,288,557	83,272
5/1/93	68,945 16	68,945.18	62.0Ql.36	0.00	0.00	2,288,557	7.104%	81,285	68,945	2,300,896	73,204
11/1/93	308,945 16	308,945.18	268,689.76	0 0 0	0 0 0	2,300,896	7.104%	81.723	308,945	2,073,674	71,074
5/1/94	62,765.18	62,765.18	52,714.60	0.00	0.00	20073,674	7.104%	73,652	62,765	2,084,561	61,858
11/1/94	302,765.18	302,765.18	245,561 60	0.00	0 0 0	2,084,561	7.104%	74,039	302,765	1,855,835	60,050
5/1/95	58,285.18	58,285.18	44,085.02	0.00	0.00	1,855,835	7.104%	65,915	56,285	1,865,465	51.628
1111195	296,285.18	296,285.18	224,103.84	0 0 0	0 0 0	1,865,465	7.104%	66,257	296,285	1,635,437	50,116
5/1/96	49,565.18	49,565.18	36,204.16	0 0 0	0.00	1,635,437	7.104%	58,087	49,565	1,643,959	42,429
11/1/96	289,565.18	289,565.18	204.253 99	0.00	0.00	1,643,959	7.104%	58,390	289,565	1,412,784	41.187
5/1/97	42.665 I6	42,665.18	29,062 99	0.00	0.00	1,412,784	7.104%	50,179	42,665	1,420,298	34,181
11/1/97	277,665.18	277,665.18	182,654.55	0 0 0	0 0 0	1,420,298	7.104%	50,446	277,665	1,193,079	33,184
5/1/98	35.732 66	35.732.66	22.889 64	0.00	0.00	1.193.079	7.104%	42,376	35,733	1,199,721	26,919
11/1/98	270,732.68	270,732 68	166.066 60	0 0 0	0.00	1,199,721	7.104%	42,611	270,733	971,600	26,141
5/1/99	26.623 93	26,623 93	16,957 65	0.00	0.00	971,600	7.104%	34,509	28,624	977,485	20,444
11/1/99	263,623 93	263,623 93	150,821.61	0.00	0.00	977,485	7.104%	34,718	263,624	748,580	19,863
5/1/00	21,397.68	21.397 68	11.621 .92	0.00	0 0 0	748.560	7.104%	26,588	21,398	753,770	14,689
11/1/00	256,397 68	256,397 68	136,797.35	0 0 0	0.00	753,770	7.104%	26,772	256,398	524,144	14,284
5/1/01	14,053.93	14,053.93	7,241.09	0.00	0.00	524,144	7.104%	18.616	14,054	528,707	9,592
11/1/01	249,053.93	249.053.93	123.920.12	0.00	0.00	528.707	7.104%	18,779	249,054	298,432	9,344
5/1/02	6,592 68	6,592.68	3,167.76	0.00	0.00	298,432	7.104%	10,600	6,593	302,439	5,093
11/1/02	241,592.68	241.592 68	112,102 95	0 0 0	0.00	302,439	7.104%	10,742	241,593	71,588	4,984
5/1/03	(986 07)	(986 07)	(441.66)	0.00	0.00	71,588	7.104%	2,543	(986)	75,117	1,139
11/1/03	(50.466 07)	(50,486.07)	(21,846.89)	0.00	0.00	75,117	7.104%	2,668	(50,486)	128,271	56,661
	$3,481,312	$3,481,312	$2,444,493	$0	$0			$1,109,582	$3,481,312		$997,088

Discounted at: 7.1036%

Reinvested at: 7.1036%

TEST CASE #2 - Section 3 Debt Service Schedule

Savings Analysis - 12 Year Declining Service

Date	Total Net Debt Service	100.00% Local Share of Debt Service	Present Value of Local Share of Debt Service	0.00% Federal Share of Debt Service	Present Value of Federal Share of Debt Service	Local Funds Beginning Balance	Investment Rate	Interest Earnings	Debt Service Draw	Ending Balance	Present Value of Interest Earnings
5/1/92	74,765.18	74,765.18	72,200.77	0.00	0.00	2,500,000	7.104%	88,795	74,765	2,514,029	85,749
11/1/92	314,765.18	314,765.18	293,542.86	0.00	0.00	2.514.029	7.104%	89,293	314,765	2,288,557	83,272
5/1/93	68,945.18	68,945.18	62,091.38	0.00	0.00	2,288,557	7.104%	81,285	68,945	2,300,896	73,204
11/1/93	308,945.18	308,945.18	268,689.76	0.00	0.00	2,300,896	7.104%	81.723	308,945	2,073,674	71,074
5/1/94	62,765.18	62,765.18	52,714.60	0.00	0.00	20073,674	7.104%	73,652	62,765	2,084,561	61,858
11/1/94	302,765.18	302,765.18	245.661 60	0.00	0.00	2.084.561	7.104%	74,039	302,765	1,855,835	60,050
5/1/95	56,285.18	56,285.18	44,085.02	0.00	0.00	1,855,835	7.104%	65,915	56,285	1.865.465	51.628
11/1/95	296,285.18	296,285.18	224,103.84	0.00	0.00	1,865,465	7.104%	66,257	296,285	1,635,437	50,116
5/1/96	49,565.18	49,565.18	36,204.16	0.00	0.00	1,635,437	7.104%	58,087	49,565	1,643,959	42,429
11/1/96	289,565.18	289,565.18	204.253 99	0.00	0.00	1,643,959	7.104%	56,390	289,565	1,412,784	41.187
5/1/97	42.665 18	42.665.18	29,062 99	0.00	0.00	1,412,784	7.104%	50,179	42,665	1.420.298	34,181
11/1/97	277,665.18	277,665.18	182,654.55	0.00	0.00	1.420.298	7.104%	50,446	277,665	1,193,079	33,184
5/1/98	35,732 68	35.732.M)	22.699 54	0.00	0.00	1.193.079	7.104%	42,376	35,733	1,199,721	26,919
11/1/98	270,732.68	270,732 68	168,088 60	0.00	0.00	1,199,721	7.104%	42,611	270,733	971,600	26,141
5/1/99	28.623 93	28.623 93	16,957 65	0.00	0.00	971,600	7.104%	34,509	28,624	977,485	20,444
11/1/99	263,623 93	263,023 93	150,821.61	0.00	0.00	977,485	7.104%	34,718	263,624	748,580	19,863
5/1/00	21,397.68	21,397 68	11,821.92	0.00	0.00	748.580	7.104%	26,588	21,398	753,770	14,689
11/1/00	256.397 68	256,397 68	138.797.35	0.00	0.00	753,770	7.104%	26,772	256,398	524,144	14,284
5/1/01	14,053.93	14,053.93	7,241.09	0.00	0.00	524,144	7.104%	18,616	14,054	528,707	9,592
11/1/01	249,053.93	249,053.93	123,920.12	0.00	0.00	528,707	7.104%	18,779	249,054	298,432	9,344
5/1/02	6,592 68	6,592.68	3,167.76	0.00	0.00	298,432	7.104%	10,600	6,593	302,439	5,093
11/1/02	241,592.68	241.592 68	112.102 95	0.00	0.00	302,439	7.104%	10,742	241,593	71,588	4,984
5/1/03	(986 07)	(986 07)	(441.86)	0.00	0.00	71,566	7.104%	2,543	(986)	75,117	1,139
11/1/03	(50,486 07)	(50,486.07)	(21,846.89)	0.00	0.00	75,117	7.104%	2,668	(50,486)	128,271	56,661
	$3,481,312	$3,481,312	$2,444,493	$0	$0			$1,109,582	$3,481,312		$997,088

Discounted at: 7.1036%

Reinvested at: 7.1036%

EVALUATION OF FTA SUPPORTED FINANCING

Pay-As-You-Go vs. Financing

While the leveraged financing approach provides some specific benefits to transit agencies, it is not necessarily the best approach for a given capital project. In considering a financing alternative, the following circumstances are general indicators that a financing approach is the most appropriate:

Factors supporting a financing approach

1. Major imbalance in revenues and project requirements
2. One time project funding needs
3. Strong local cash flow position
4. Stable revenue sources
5. Ability to withstand reduction in Section 9 funding
6. Need for additional project funding in current year
7. Opportunity to reduce inflation impacts by advancing projects
8. Inability to fund current program of projects
9. Discipline in terms of investment of savings
10. Projected ability to fund future capital program

Factors supporting a pay-as-you-go-approach

1. Level capital program requirements
2. Level revenue flow matching capital program requirements
3. Significant projected future capital needs
4. Unstable revenue sources
5. Little capacity to withstand Section 9 reduction
6. No identified inflation savings from project financing
7. Existing ability to fund from cash
8. Unsure as to the continued use of the asset
9. High existing debt burden
10. Lack of discipline to invest savings

Because each transit agency is different, each should evaluate the potential for financing consistent with their individual organizational goals and objectives.

Once a policy determination is made that financing is an appropriate option, the decision to proceed should be made on a demonstrated financial or programmatic advantage to the transit agency.

It is important to note that not all transit agencies will choose to initiate a financing for the purpose of achieving financial savings. A financing option can allow for additional service,

It is important to note that not all transit agencies will choose to initiate a financing for the purpose of achieving financial savings. A financing option can allow for additional service, faster implementation of capital improvements or other advantages that may "use up" the savings. Nonetheless, these improvements represent the programmatic benefits of the financing approach.

Choosing the Type of Debt Instrument

Factors which affect the choice of a debt instrument include the size of the transaction, credit standing of the issuer, legal authority to issue specific securities and the overall debt plan of the agency, and the costs of debt vs. equity capital.

For financings under $200,000, a transit agency would most likely achieve the lowest overall cost of capital through a municipal lease. Under such an arrangement a leasing organization will provide a tax-exempt loan to the transit agency. The leasing company would then likely place the loan with a bank or other financial institution. Generally speaking, municipal leases carry higher interest rates ranging from one-half to one and one-half percent more than market rate financings. They generally however do not entail costs of issuance associated with a securities offering and thus, for very small projects, are most cost effective.

For issues over $2,000,000, a transit agency should look to the type of lease obligation securities utilized in their state. For example, COPS are used in several states to accomplish lease financings. In structuring a COP, the transit agency has the option of an installment sale lease structure or a true lease structure. In the installment sale structure the requirement to make payments is stronger because it is not tied to the continued availability of the asset and thus this structure is deemed more secure by bond rating agencies and investors. Unless there are policy reasons otherwise, a transit agency should usually choose the installment sale approach, particularly when federal funds are involved because the continued receipt of federal funds is contingent on continuing to use the asset. This strongly mitigates any circumstances where the asset would be taken out of service.

For transit agencies that anticipate issuing less than ten million in tax-exempt obligations during the course of a year, a bank qualified private placement or competitive or negotiated sale of securities would be appropriate. By structuring the offering to the requirements of banks with an appetite for tax-exempt debt, the transit agency would likely receive the incremental benefit of the bank qualified nature of its debt.

Statewide or other pooled finance programs may allow smaller issuers to take advantage of financing strategies in a more cost effective manner than undertaking a stand alone issue.

In evaluating a financing vehicle, the transit agency should also look to other available debt instruments such as sales tax bonds, assessment bonds, or intergovernmental loans to determine if a cheaper financing vehicle is available.

Present Value Savings

One of the most important concepts in determining the value of financing as compared to pay-as-you-go is present value. Present value is defined as the value at the current time of funds which are expected to be received in the future. In simple terms, since money that is in hand today can be invested, it will be worth more than money one receives in the future, and thus, present value gives the ability to take into account the time value of money. Present value can also provide a means of determining the present worth of a stream of payments in the future and allows a fair comparison between either receiving or paying a lump sum payment today and receiving or paying periodic payments in the future.

In trying to quantify this concept, it is helpful to examine the algebraic formula for present and future value. This formula is provided below.

$$\text{Future Value} = \text{Present Value} * (1+k)^{\wedge n}$$

In this compound interest formula, "k" equals the annual interest rate, and "n" represents the number of years the funds are being invested. For example, if ten dollars is invested for one year at 6.00%, then one would simply multiply ten dollars by 1.06 and would receive $10.60 in one year. If the ten dollars was invested for two years, then the correct formula would be [$lO*(1+.06)] or about $11.24. The reverse of this formula is used to calculate the present value worth of future value funds. Therefore,

$$\text{Present Value} = \frac{\text{Future Value}}{(1+k)^{\wedge n}}$$

Using this formula, the value of receiving $100.00 ten years from now, assuming an annual interest rate of 6.00%, would be (100/(1.06)^10 or about $55.84 in today's dollars.

In examining how this present value theory applies to transit agencies, it is important to look at the different options that transit agencies have to procure their necessary assets. For example, is it better for a transit agency to save its money and buy buses when it can afford them or is it better to finance these buses through a lease obligation and procure them today? The answer lies in present value theory because financing gives the transit agency the ability to spread the costs of these buses out over time while avoiding increased costs for the buses due to inflation. This intuitive answer can be illustrated more clearly in a firm example.

In this test case, Rolling Thunder Transit Agency (RTTA) needs to buy 40 replacement buses for its aging fleet. Since these buses cost $250,000 each, the total cost of the procurement is ten million ($lO,OOO,OOO). Assuming that RTTA is planning on using its Section 9 funds to pay for 80% of the procurement, the RTTA is still responsible for $2,000,000. This scenario poses two

potential problems. First, if the RTTA does not have an annual Section 9 grant of $8,000,000, then the RTTA will have to bank the funds at the Federal Treasury until the necessary levels are reached. Likewise, another potential problem is that the RTTA needs to come up with the $2,000,000 in local match funds, and if they are not available, it will have to simply save and bank the funds until a sufficient local match is available. The procurement is spread out and delayed, further increasing costs, due to inflation The result is that the RTTA not only has to pay more for the buses, but it does not receive the necessary buses when it needs them.

An alternative for the RTTA to this traditional approach is lease financing. Under this scenario, the RTTA would finance the full amount (both local and federal) of the bus procurement. In this example the RTTA would issue debt with a par amount of $11,365,000. This amount would cover the total bus procurement, a debt service reserve fund equivalent to 10% of the par size, approximately 2% in costs of issuance, and a small rounding of $1,200. Under this approach, the transit agency would use local funds to pay for 20% of the principal and interest payments and would use Section 9 funds to make 80% of the principal and interest payments.

The result of using this technique is that the RTTA does not have to have the full local match or Section 9 funds today in order to buy all of the 40 buses up-front. In fact, as the debt service schedule shows, the RTTA only needs $309,539.76 in local funds and $1,238,159.03 in Section 9 funds for the first year. This decrease in first year costs brings a significant advantage to the RTTA in terms of additional spending capacity. Assuming that the full $2,000,000 was available today, the RTTA would gain an additional $1,690,460.24 in funds to spend on day one. Likewise, the RTTA gains better leverage on its Section 9 funds by gaining an additional $6,761,840.97, assuming the full $8,000,000 was available. Thus, with this technique, if the funds are available, the RTTA gains additional spending capacity while buying the buses and if all the funds are not available, the RTTA still has the opportunity to advance the procurement.

In trying to evaluate the cost to the RTTA, a second significant advantage can be found in terms of present value savings. The debt service schedule provides three savings analyses that illustrate the potential savings that can be garnered through this technique. In these analyses, local funds are drawn down to pay the local section of debt service. Since these local funds are not expended on day one, they can remain invested over the life of the issue and can gain significant interest earnings, which offset the cost of the financing.

In test case #1, it is conservatively assumed that the reinvestment rate on the local funds is only at the bond yield; under this scenario, the net cost of the financing to the RTTA is $86,258. This number is calculated by starting with the local funds balance which would have otherwise been necessary under a pay-as-you-go approach, and then subtracting out 20% of the total net debt service, representing the local share of debt service. As these local funds are drawn down, they earn interest to further offset debt service. In this scenario, the local share of debt service is $2,784,824, and therefore, the RTTA would need to earn $784,824 in interest earnings over the life of the issue to break even with paying $2,000,000 up-front. Since the reinvestment at the bond yield earns only $698,565 in interest earnings, the cost to the RTTA is an additional $86,258 over the $2,000,000. The present value of this number is $41,914. Under this scenario, debt

financing is more costly and would suggest that pay-as-you-go is stronger from a financial perspective. However, to better put this cost number in perspective, if we assume that under a pay-as-you-go scenario only ten buses are delayed by one year with an inflation rate of 5%, then the increased inflationary costs of pay-as-you-go would amount to $125,000 on these buses and would quickly overtake the costs of financing.

Under test case #2, we assume that the reinvestment rate on local funds is 50 basis points, or .5%, higher than the bond yield. In this scenario, there is $790,607 in interest earnings, which is slightly higher than the break even point of $784,824. The result is a net benefit of $5,783 to the RTTA through the financing over paying $2,000,000 up-front. The present value of this savings is $2,810. While this means that financing is only slightly better, it does ensure that the RTTA is able to avoid potentially high inflationary costs, which could have otherwise incurred under pay-as-you-go scenario, by locking in the costs of the buses up-front.

In test case #3, we assume a more realistic reinvestment rate of 1% higher than the bond yield since the RTTA's local cash would not be restricted to the borrowing rate of the financing. In this scenario, reinvestment earnings of $894,190 are realized, and the result is not only the avoidance of similar insurance of mitigating potential inflationary costs, but $109,366 in savings over the life of the financing. The present value of this savings is $53,143 and means that the cost of the financing has now been reduced significantly below the $2,000,000 which would have otherwise been spent under a pay-as-you-go approach.

Thus, financing for the RTTA was the right choice because it brought them advantages that were not possible under a pay-as-you-go approach. The RTTA realized an improved cash flow position because it did not have to spend all of the local and Section 9 funds as they became available on buses, and instead, could either bank the remaining funds or spend them on additional projects. Under a scenario where all of the funds necessary for the total procurement were not available in the first year, this financing also allowed the RTTA to receive all the vehicles from the beginning by spreading the cost of expensive vehicles over several years. Secondly, the RTTA put themselves in a position to garner present value savings while eliminating potential inflationary costs. Even under the most conservative of reinvestment assumptions in test case #1, these inflationary costs under a pay-as-you-go scenario could quickly overtake any financing costs. As shown in test case #3, more realistic assumptions not only hedge against these inflationary costs, but bring significant savings over a pay-as-you-go approach Third, while not included in the analyses, there is the possibility of further savings by reducing the age of the fleet and therefore cutting down on maintenance costs and by purchasing the buses in a larger quantity and thereby negotiating a lower per unit cost.

Pay-As-You-Go

In evaluating the appropriateness of pay-as-you-go versus lease financing, it is vital to understand the nature of the program itself. One of the most important factors will be the timing of the revenues and expenditures. If there is an approximate level source of revenue while the capital requirements, likewise, remain relatively level, then a pay-as-you-go approach will often make more sense. This conclusion is illustrated in Figure 4-2.

In this scenario, the RTTA must decide whether or not it is appropriate to finance 14 buses which are scheduled to be procured in FY 1993 and which cost $275,000 per bus. The RTTA is expecting to purchase a similar level of buses every year through FY 2005 but does not foresee any other substantial capital outlays during this period. The RTTA also expects to receive revenues, both federal and local, at a level that matches the proposed procurements.

Under the lease financing approach (see Figure 4-2A), the RTTA would finance the $3,850,000 purchase price and would invest its local share ($770,000) of the procurement cost. The total debt service of this financing would be $5,131,535. While the reinvestment of the local share will have a positive benefit for the RTTA, this scenario has a negative effect on the overall delivery schedule of the buses for the RTTA. This effect is a result of the fact that the federal share of debt service ($4,105,228) will surpass the initial federal outlay ($3,080,000) for the 1993 procurement in the eighth year (FY 2001). Therefore, beginning in FY 2001 the RTTA would not be able to purchase its planned 14 buses.

Using a pay-as-you-go approach (see Figure 4-2B) in this example, this problem is eliminated because the revenues are matched with the expenditures. Due to the level nature of the expenditures, the RTTA has no necessity to advance the project delivery schedule, and in fact, any substantial advancement could be problematic to the regular replacement schedule that the RTTA has budgeted. Without any advancement of the delivery schedule, the benefit of inflation savings is diluted because no buses arrive to the RTTA earlier. In addition, the RTTA does not need to finance the procurement in order to reduce the required federal outlay for the fourteen buses in FY 1993, and thereby, free up federal money for other capital projects.

Given the fact that financing is not necessary for substantial project advancement nor to free up federal money in FY 1993, pay-as-you-go makes sense as the appropriate financial approach under these circumstances. Since expenditures and revenues are relatively level, the RTTA has the ability to fund these procurements with cash and financing actually produces a negative effect on the project delivery schedule in the outer years. The overall benefits of utilizing a financing approach are not present in this scenario, and as a result, the RTTA should continue to purchase its buses on an annual basis with its available cash.

Conclusion

Lease financing is an important tool for some transit agencies. It can bring significant advantages to the transit agencies under the right circumstances. However, it is important to note that even when economic benefits exist through financing, a transit agency must weigh the policy ramifications that occur with financing. If a transit agency's cash flow matches its planned capital outlays or if the Agency's local cash is restricted in its potential yield by the market, then it will be more advantageous to pay-as-they-go. On the other hand, most transit agencies face a situation where revenues and expenditures do not coincide and reinvestment yields are higher than borrowing rates. In this case, if it is politically feasible, then financing is a means that can bridge

this disparity between revenues and expenditures while advancing asset procurement, avoiding inflationary costs and potentially producing significant present value savings.

this disparity between revenues and expenditures while advancing asset procurement, avoiding inflationary costs and potentially producing significant present value savings.

ROLLING THUNDER TRANSIT AGENCY

Figure 4-2B

Revenue and Expenses

1 = PAY-AS-YOU-GO, 2 = BOND FINANCING

		FY1993	FY1994	FY1995	FY1996	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	Total
Local Funds Beginning Balance		0	32,840	67.082	102,783	140,007	178.819	219.286	26 1.479	305.471	351.340	399.165	449,030	501.021	
Federal Funds Beginning Balance		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Beginning Balance		**0**	32,840	67,082	102.783	140.007	178,819	219.286	261,479	305,471	351,340	399.165	449,030	501.021	
Revenues															
Federal **Revenue**		3,080,000	3,080,000	3.080.000	3,080,000	3.080.000	3.080.000	3.080.000	3,080,000	3,080,000	3,080,000	3.080.000	3.080.000	3,080,000	40,040,000
Local Revenue		770,000	770,000	770.000	770,000	770,000	770,000	770.000	770,000	770,000	770,000	770,000	770,000	770,000	10,010,000
Total Available Revenue		3,850,000	3,850,000	3.850.000	3.850.000	3,850,000	3,850,000	3.850.000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	50,050,000
Interest Income (1)	(6.824%)	32,840	34.241	35.701	37.224	38,812	40.467	42,193	43.992	45.869	47,825	49.865	51,992	54,209	555,230
Bond Proceeds		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Revenues		3,882,840	3.884.241	3.885.701	3,887,224	3.888.812	3.890.467	3.892.193	3.893.992	3,895,869	3.897.825	3,899,865	3.901.992	3,904,209	50.605.230
Expenditures															
Capital Expenditures		3,850,000	3,850,000	3,850,000	3.850.000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	50,050,000
Debt Service		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Expenditures		3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	50,050,000
Local Funds Beginning Balance		32,840	67.082	102,783	140,007	178,819	219.286	261,479	305.471	351,340	399.165	449.030	501,021	555.230	
Federal Funds Beginning Balance		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Ending Balance		32.840	67.082	102,783	140,007	178,819	219.286	261.479	305.471	351.340	399,165	449,030	501,021	555.230	

(1) Assumes quarterly draws.

ROLLING THUNDER TRANSIT AGENCY

Figure 4-2B

Revenue and Expenses

1 = PAY-AS-YOU-GO, 2 = BOND FINANCING

		FY1993	FY1994	FY1995	FY1996	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	Total
Local Funds Beginning Balance		0	32,840	67.082	102,783	140,007	178.819	219.286	26 1.479	305.471	351.340	399.165	449,030	501.021	
Federal Funds Beginning Balance		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Beginning Balance		**0**	32,840	67,082	102.783	140.007	178,819	219.286	261,479	305,471	351,340	399.165	449,030	501.021	
Revenues															
Federal Revenue		3,080,000	3,080,000	3.080.000	3,080,000	3.080.000	3.080.000	3.080.000	3,080,000	3,080,000	3,080,000	3.080.000	3.080.000	3,080,000	40,040,000
Local Revenue		770,000	770,000	770.000	770,000	770,000	770,000	770,000	770,000	770,000	770,000	770,000	770,000	770,000	10,010,000
Total Available Revenue		3,850,000	3,850,000	3.850.000	3.850.000	3,850,000	3,850,000	3.850.000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	50,050,000
Interest Income (1)	(6.824%)	32,840	34.241	35.701	37.224	38,812	40.467	42,193	43.992	45.869	47,825	49.865	51,992	54,209	555,230
Bond Proceeds		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Revenues		3,882,840	3.884.241	3.885.701	3,887,224	3.888.812	3.890.467	3.892.193	3.893.992	3,895,869	3.897.825	3,899,865	3.901.992	3,904,209	50.605.230
Expenditures															
Capital Expenditures		3,850,000	3,850,000	3,850,000	3.850.000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	50,050,000
Debt Service		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Expenditures		3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	3,850,000	50,050,000
Local Funds Beginning Balance		32,840	67.082	102,783	140,007	178,819	219.286	261,479	305.471	351,340	399.165	449.030	501,021	555.230	
Federal Funds Beginning Balance		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Ending Balance		32.840	67.082	102,783	140,007	178,819	219.286	261.479	305.471	351.340	399,165	449,030	501,021	555.230	

(1) Assumes quarterly draws.

ROLLING THUNDER TRANSIT AGENCY

Bus Procurement

Debt Service Schedule

Date	Principal	(1) Coupon	Interest	Semi-annual Debt Service	5.8240% DSRF Earnings	CAPI Payments	Total Net Debt Service	Annual Net Debt Service
7/1/93			111.411.25	111,411.25	0.00	111,411.25	0.00	
1/1/94	365,00000	3.25%	111,411.25	476,411.25	12,827.33	0.00	463,583.92	463,583.92
7/1/94			105,480.00	105,480.00	12,627 33	0.00	92,652.67	
111195	365,000.00	3.95%	105,480.00	470,480.00	12,827.33	0 00	457,652.67	550,305.34
7/1/95			98,271.25	96.271.25	12,827.33	0 00	85,443.92	
1/1/96	365.000.00	4.35%	98,271.25	463,271.25	12,827.33	0.00	450,443.92	535,887.84
7/1/96			90,332 50	90,332.50	12,827.33	0.00	77,505.17	
1/1/97	365,000.00	4.65%	90,332 50	455,332.50	12,827.33	0.00	442.505.17	520.01034
7/1/97			81,846.25	81,846.25	12.82733	0 00	69,016.92	
1/1/98	365,000.00	4.95%	81,846.25	446,846.25	12.827.33	0.00	434.018.92	503.03764
7/1/98			72.61250	72,812.50	12,827.33	0.00	59.985.17	
1/1/99	365,000.00	5.15%	72,812.50	437,812.50	12,827.33	0.00	424,985.17	484,970.34
7/1/99			63,413.75	63.413.75	12,827.33	0.00	50.586.42	
1/1/00	365,00000	535%	63,413.75	428,413.75	12,827.33	0.00	415.586.42	466,172.84
7/1/00			53.650.00	53,650.00	12,827.33	0.00	40,822.67	
111101	370,000.00	5.55%	53,650.00	423.650.00	12,827.33	0 00	410,822.67	451,645.34
7/1/01			43,382.50	43,382.50	12,827.33	0.00	30.55517	
1/1/02	370.00000	5.70%	43,382.50	413,382.50	12,827.33	0 00	400,555.17	431,110.34
7/1/02			32,837.50	32.63750	12.62733	0.00	20,010 17	
1/1/03	370,000.00	5.80%	32,837.50	402,837.50	12.827.33	0.00	390.010.17	410,020.34
7/1/03			22.107.50	22,107 50	12.82733	0.00	9,280.17	
111104	370.000.00	5.90%	22,107.50	392.107.50	12,827.33	0.00	379.280.17	388,560.34
7/1/04			11.192.50	11,192.50	12,827.33	0.00	(1.634.83)	
111105	370,000.00	6.05%	11.192.50	381,192.50	453,327.33	0.00	(72,134.83)	(73,769.66)
	$4,405,000.00		$1,573,475.00	$5,978,475.00	$735,528.58	$111,411.25	$5,131,535.17	$5,131,535.17
			0.00	0.00			0.00	0.00
Total			$1,573,475.00	$5,978,475.00			$5,131,535.17	$5.131.535 17

TIC (2) 5.8239862%

Dated Date 111193

Delivery Date 1/1/93

First Intent Payment Date 7/1/93

1) Source: Delphis Hanover Index for 92 Scale on 8/21/92

2) TIC = Debt Service Discounted10 Par Minus Costs of Issuance

Prepared by Public Financial Management, Inc.

ROLLING THUNDER TRANSIT AGENCY

Bus Procurement

Debt Service Schedule

Date	Principal	(1) Coupon	Interest	Semi-annual Debt Service	5.8240% DSRF Earnings	CAPI Payments	Total Net Debt Service	Annual Net Debt Service
7/1/93			111.411.25	111,411.25	0.00	111,411.25	0.00	
1/1/94	365,00000	3.25%	111,411.25	476,411.25	12,827.33	0.00	463,583.92	463,583.92
7/1/94			105,480.00	105,480.00	12,627 33	0.00	92,652.67	
111195	365,000.00	3.95%	105,480.00	470,480.00	12,827.33	0 00	457,652.67	550,305.34
7/1/95			98,271.25	96.271.25	12,827.33	0 00	85,443.92	
1/1/96	365.000.00	4.35%	98,271.25	463,271.25	12,827.33	0.00	450,443.92	535,887.84
7/1/96			90,332 50	90,332.50	12,827.33	0.00	77,505.17	
1/1/97	365,000.00	4.65%	90,332 50	455,332.50	12,827.33	0.00	442.505.17	520.01034
7/1/97			81,846.25	81,846.25	12.82733	0 00	69,016.92	
1/1/98	365,000.00	4.95%	81,846.25	446,846.25	12.827.33	0.00	434,018.92	503.03764
7/1/98			72.61250	72,812.50	12,827.33	0.00	59.985.17	
1/1/99	365,000.00	5.15%	72,812.50	437,812.50	12,827.33	0.00	424,985.17	484,970.34
7/1/99			63,413.75	63.413.75	12,827.33	0.00	50.586.42	
1/1/00	365,00000	5 35%	63,413.75	428,413.75	12,827.33	0.00	415.586.42	466,172.84
7/1/00			53.650.00	53,650.00	12,827.33	0.00	40,822.67	
111101	370,000.00	5.55%	53,650.00	423.650.00	12,827.33	0 00	410,822.67	451,645.34
7/1/01			43,382.50	43,382.50	12,827.33	0.00	30.55517	
1/1/02	370.00000	5.70%	43,382.50	413,382.50	12,827.33	0 00	400,555.17	431,110.34
7/1/02			32,837.50	32.63750	12.62733	0.00	20,010 17	
1/1/03	370,000.00	5.80%	32,837.50	402,837.50	12.827.33	0.00	390.010.17	410,020.34
7/1/03			22.107.50	22,107 50	12.82733	0.00	9,280.17	
111104	370.000.00	5.90%	22,107.50	392.107.50	12,827.33	0.00	379.280.17	388,560.34
7/1/04			11.192.50	11,192.50	12,827.33	0.00	(1.634.83)	
111105	370,000.00	6.05%	11.192.50	381,192.50	453,327.33	0.00	(72,134.83)	(73,769.66)
	$4,405,000.00		$1,573,475.00	$5,978,475.00	$735,528.58	$111,411.25	$5,131,535.17	$5,131,535.17
			0.00	0.00			0.00	0.00
Total			$1,573,475.00	$5,978,475.00			$5,131,535.17	$5.131.535 17

TIC (2) 5.8239862%

Dated Date 111193

Delivery Date 1/1/93

First Intent Payment Date 7/1/93

1) Source: Delphis Hanover Index for 92 Scale on 8/21/92

2) TIC = Debt Service Discounted to Par Minus Costs of Issuance

Prepared by Public Financial Management, Inc.

ROLLING THUNDER TRANSIT AGENCY

Capitalized Interest Fund

Date	Beginning Balance	5.02% Interest Earnings	5.82% DSRF Earnings	Interest	Total Payment	% Capitalized	Capitalized Interest	Semi-Annual Capitalized Interest	Ending Balance
111193	105,380	0	0	0		loo .00%	0		105,380
2/1 193	105,380	511	0	18.569		100.00%	18,569		87,322
3/1/93	87,322	424	0	18,569		100.00%	1 a,569		69,178
4/1 193	69.178	336	0	18,569		100.00%	16,569		50.945
5/1 193	50,945	247	0	18,569		100.00%	18,569		32,624
6/1 193	32,624	158	2,138	18,569		100.00%	18,569		16,351
7/1/93	16,351	79	2,138	18,569		100.00%	18,569	111,411	0
8/1/93	0	0	0	0		0.00%	0		0
		1,756	4,276	111,411			111,411	111,411	

Capitalized Interest Fund reinvested at:

5.82%

Prepared by Public Financial Management, Inc.

ROLLING THUNDER TRANSIT AGENCY

Capitalized Interest Fund

Date	Beginning Balance	5.02% Interest Earnings	5.62% DSRF Earnings	Total Interest Payment	% Capitalized	Capitalized Interest	Semi-Annual Capitalized Interest	Ending Balance
111193	105,380	0	0	0	loo .00%	0		105,380
2/1 193	105,380	511	0	18.569	100.00%	18,569		87.322
3/1/93	87,322	424	0	18,569	100.00%	1 a,569		69,178
4/1 193	69.178	336	0	18,569	100.00%	16,569		50,945
5/1/93	50,945	247	0	18,569	100.00%	la.569		32,624
6/1 193	32,624	158	2,138	18,569	100.00%	18,569		16,351
7/1/93	16,351	79	2,138	18,569	100.00%	la,569	111,411	0
8/1/93	0	0	0	0	0.00%	0		0
		1,756	4,276	111,411		111,411	111,411	

Capitalized Interest Fund reinvested al:

5.82%

Prepared by Public Financial Management, Inc.

ROLLING THUNDER TRANSIT AGENCY
Bus Procurement
Sources and Uses

Sources		
Bond Proceeds		11,365,000.00
Total		11,365,000.00
Uses		
Bus Acquisition Fund		10,000,000.00
DSRF		1,136,500.00
Cost of issuance	(2.00%)	227,300.00
Contingency		1,200.00
Total		11,365,000.00

Cash Flnanclng Assumptions

Federal	8,000,000.00
Local	2,000,000.00
Total	10,000,000.00
Federal Share =	80.000%
Local Share =	20.000%

Acquisition Assumptions

Buses	40.00
cost	250,000.00
Total Cost	10,000,000.00

Prepared by Public Financial Management, Inc.

ROLLING THUNDER TRANSIT AGENCY
Bus Procurement
Sources and **Uses**

Sources		
Bond Proceeds		11,365,000.00
Total		11,365,000.00
Uses		
Bus **Acquisition** Fund		10,000,000.00
DSRF		1,136,500.00
Cost of issuance	(2.00%)	227.300.00
Contingency		1,200.00
Total		11,365,000.00

Cash Flnanclng Assumptions

Federal	8,000,000.00
Local	2,000,000.00
Total	10,000,000.00
Federal Share =	80.000%
Local Share =	20.000%

Acquisition Assumptions

Buses	40.00
cost	250,000.00
Total Cost	10,000,000.00

Prepared by Public Financial Management, Inc.

TEST CASE #1

Sevinge Analysis - 12 Year Decllnlng Service

Dare	Total Net Debt Service	20.00% Local Share of Debt Service	Present Value of Local Share of Debt Service	80.00% Federal Share of Debt Service	Present Value of Federal Share of Debt Service	Local Funds Beginning Balance	Investment Rate	Interest Earnmgs	Debt Service Draw	Ending Balance	Present Value of Interest Earnings	PV of Ending Balance
5/1/92	298,849 39	59.769 88	57,999 25	239.07951	231,997 00	2,000,000	6.106%	61,057	59,770	2,001,287	59,248	1,942,001
11/1/92	1,248,849 39	249.769 88	235,190 66	999,079 51	940.76264	2,001,287	6.106%	61,096	249,770	1.812.613	57,530	1,706,810
5/1/93	275.811 a9	55,162 38	50.40377	220,649 51	201.61507	1,812,613	6.106%	55,336	55,162	1,812,787	50,563	1,656,406
11/1/93	1,225,811 as	245.162 38	217.377.13	980.64951	869,508 51	1,812,787	6.106%	55,342	245,162	1,622,967	49,070	1,439,029
5/1/94	251.349 39	50,269 88	43.252.17	Ml.079 51	173,008 66	1,622,967	6.106%	49,547	50,270	1,622,243	42,630	1,395,777
11/1/94	1,201,349 39	240,269 88	200,600 89	961.079 51	802,415 57	1,622,243	6.106%	49,525	240,270	1,431,498	41,349	1,195,173
5/1/95	225,699 39	45,139 88	36,571 30	180.55951	148.28521	1,431,498	6.106%	43,701	45,140	1,430,060	35,406	1,158,602
11/1/95	1,175,699 39	235.139 88	184,861 44	940.559 51	739.44575	1,430,060	6.106%	43,658	235,140	1,238,577	34,323	973,740
5/1/96	199,099 39	39,819 88	30,378 06	150.27951	121.51222	1,238,577	6.106%	37,812	39,820	1,236,569	28,846	943,362
11/1/96	1,149,099 39	229,819 88	170.132.64	919,279 51	680.53055	1,236,569	6.106%	37,751	229,820	1,044,500	27,946	773,230
5/1/97	171,786 as	34,357 38	24,680 85	137.429 51	98,723 39	1,044,500	6.106%	31,887	34,357	1,042,030	22,906	748.549
11/1/97	1,116,786 89	223.35736	155.697 04	693.42s 51	622.78817	1,042,030	6.106%	31,812	223,357	050.404	22.175	592.852
5/1/98	143,909 39	28,781 88	19,468 80	115.12751	77,075 20	850.484	6.106%	25.964	28.782	847,666	17.563	573.383
11/1/98	1,088,909 39	217.781 88	142,949 22	871,127 51	571,796 90	847,666	6.106%	25,878	217.782	655,762	16,986	430.434
5/1/99	115.323.14	23,064 63	14,690 84	92,258 51	58,763 35	655.762	6.106%	20,019	23,065	652,717	12,751	415,743
11/1/99	1,060,323 14	212,064 63	131.071 51	848,258 51	524.28605	652,717	6.106%	19,926	212,065	460,579	12,316	284.671
5/1/00	88,284 39	17.252 99	10.347.65	69.011 51	41,390 59	460,579	6.106%	14,061	17,253	457,387	8,433	274,324
11/1/00	1,031,264 39	206,252 88	120,038 37	825,011 51	480.15349	457.387	6.106%	13,963	206,253	265,097	a.127	154,285
5/1/01	56.73314	11.34663	6,408.07	45,386 51	25,632 26	265,097	6.106%	8.093	11,347	261,843	4,571	147,877
11/1/01	1,001,733.14	2oo.34663	109,794.89	801,386 51	439.17s 56	261.843	6.106%	7,994	200,347	69,490	4,381	313,082
5/1/02	26,729 39	5,345.88	2,842 88	21.383.51	11,371 54	69,490	6.106%	2,121	5,346	66,266	1.128	35,240
11/1/02	871.72939	194,345 88	100,289 49	777.30351	401.15707	66,266	6.106%	2,023	194.346	(126,057)	1.044	(65,050)
5/1/03	(3.746 86)	(74037)	(375 25)	(2,997 49)	(1,500 99)	(126,057)	6.106%	0	(749)	(125,308)	0	(62.748)
11/1/03	(195.246 86)	(39,049 37)	(18,974 67)	(156.197 49)	(75.898 67)	(125,308)	6.106%	0	(39,049)	(86,258)	0	(41,914)
	$13,924,118	$2,784,824	$2,045,700	$11,139,294	$8,182,800			$698,565	$2,784,824		$559,290	

Discounted at: 6.1057%

Reinvested at: 6.1057%

TEST CASE #1

Sevinge Analysis - 12 Year Declining Service

Dare	Total Net Debt Service	20.00% Local Share of Debt Service	Present Value of Local Share of Debt Service	80.00% Federal Share of Debt Service	Present Value of Federal Share of Debt Service	Local Funds Beginning Balance	Investment Rata	Interest Earnmgs	Debt Service Draw	Ending Balance	Present Value of Interest Earnings	PV of Ending Balance
5/1/92	298,649 39	59.769 88	67.999 25	239.07951	231.93700	2,000,000	6.106%	61,057	59,770	2,001,287	59,248	1,942,001
11/1/92	1,248,849 39	249.769 88	235,190 66	999,079 51	940.76264	2,001,287	6. 106%	61,096	249,770	1.812.613	57,530	1,706,810
5/1/93	275.61169	55,162 36	50.40377	220.64951	201.61507	1,812,613	6.106%	55,336	55,162	1,812,787	50,563	1,656,406
11/1/93	1,225,811 69	245.162 38	217.377.13	980.64951	869.508 51	1,812,787	6.106%	55,342	245,162	1,622,967	49,070	1,439,029
5/1/94	251.349 39	50,269 88	43.252.17	Ml.079 51	173,008 66	1,622,967	6.106%	49,547	50,270	1,622,243	42,630	1,395,777
11/1/94	1.201.34939	240.269 88	200.60369	061.079 51	602,415 57	1,622,243	6.106%	49,525	240,270	1,431,498	41,349	1,195,173
5/1/95	225.689 38	46,139 88	36,571.30	180,559 51	146.26521	1,431,498	6.106%	43,701	45,140	1.430.060	35.406	1,158,602
11/1/95	1,175,699 39	235.139 88	184,861 44	040.559 51	739.44575	1,430,060	6.106%	43,658	235,140	1,238,577	34,323	973,740
5/1/96	199.099 39	39.619 66	30.370 06	150.27951	121.51222	1,238,577	6.106%	37,812	39,820	1,236,569	28,846	943,362
11/1/96	1,149,099 39	229.61966	170.132.64	919,279 51	680,530 55	1,236,569	6.106%	37,751	229,820	1,044,500	27,946	773,230
5/1/97	171,766 89	34,357 38	24.66065	137.429 51	96,723 39	1,044,500	6.106%	31,887	34,357	1,042,030	22,906	748.549
11/1/97	1,116,786 89	223.35736	155.697 04	893,429 51	622,766 17	1,042,030	6.106%	31,812	223,357	850.484	22.175	592.852
5/1/98	143,909 39	26.761 88	19,468 80	115.12751	77,075 20	850,484	6.106%	25.964	28.782	847,666	17.563	573.383
11/1/98	1,088,909 39	217.761 88	142,949 22	671.12751	571.79690	847,666	6.106%	25,878	217.782	655,762	16,986	430.434
5/1/99	115.323.14	23.06463	14.69064	92,256 51	58,763.35	655.762	6.106%	20,019	23,065	652,717	12,751	415,743
11/1/99	1.060.323 14	212.064 63	131.071 51	646,256 51	624.26605	652,717	6.106%	19,926	212,065	460,579	12,316	284,671
5/1/00	66.26439	17.252 88	10347.65	69.011 51	41,390 59	460,579	6.106%	14,061	17,253	457,387	8,433	274,324
11/1/00	1.031.264 39	206,252 88	120.036.37	825,011 51	480.15349	457,387	6.106%	13,963	206,253	265,097	a.127	154,285
5/1/01	56.73314	11.34863	6,408.07	45.366 51	25,632 26	265,097	6.106%	8.093	11,347	261,843	4,571	147,877
11/1/01	1,001,733.14	200.34663	100.79489	601,366 51	439.17s 56	261,843	6.106%	7,994	200,347	69,490	4,381	38,082
5/1/02	26,729 39	5,345.88	2.64266	21,383.51	11.371 54	69,490	6.106%	2,121	5,346	66,266	1,128	35,240
11/1/02	971,729 39	ls4.34566	100,289 49	777.30351	401.15707	66,266	6.106%	2,023	194.346	(126,057)	1.044	(65,050)
5/1/03	(3.746 86)	(74037)	(375 25)	(2,997 49)	(1,500 99)	(126,057)	6.106%	0	(749)	(125,308)	0	(62,748)
11/1/03	(195.246 86)	(39.049 37)	(18,974 67)	(156.197 49)	(75.898 67)	(125,308)	6.106%	0	(39,049)	(86,258)	0	(41,914)
	$13,924,118	$2,784,824	$2,045,700	$11,139,294	$8,182,800			$698,565	$2,784,824		$559,290	

Discounted at: 6.1057%

Reinvested at: 6.1057%

TEST CASE #3

Savings Analysis - 12 Year Declining Service

Date	Total Net Debt Service	20.00% Local Share of Debt Service	Present Value of Local Share of Debt Service	80.00% Federal Share of Debt Service	Present Value of Federal Share of Debt Service	Local Funds Beginning Balance	Investment Rate	Interest Earnings	Debt Service Draw	Ending Balance	Present Value of Interest Earnings	PV of Ending Balance
5/1/92	298,649.39	50.769.66	57.99925	239,079.51	231,997.00	2,000,000	7.106%	71,057	59,770	2,011,287	68,952	1,951,705
11/1/92	1.246.649.39	248.769 88	235.19066	999.079 51	940.762 64	2,011,287	7.106%	71,458	249,770	1,832,975	67,287	1,725,983
5/1/93	275.611 69	55,162.38	50,403.77	220.649 51	201.615.07	1,832,975	7.106%	65,123	55,162	1,842,936	59,505	1.683.954
11/1/93	1,225,811.69	245,162.38	217,377.13	980,649.51	869,508.51	1,842,936	7.106%	65,477	245,162	1,663,250	58,056	1,474,747
5/1/94	251,349.39	50,269.88	43,252.17	201,079.51	173.cx36.66	1,663,250	7.106%	59,093	50,270	1,672,073	50,843	1,438,650
11/1/94	1,201,349.39	240.269 88	200,603.89	961.079 51	602.41557	1,672,073	7.106%	'59,406	240,270	1,491,209	49,599	1.245.026
5/1/95	225.69938	45.139 66	36,571.30	160.559 51	146.26521	1,491,209	7.106%	52,980	45,140	1,499,050	42,923	1,214,496
11/1/95	1.175.6993s	235,139 66	164.661.44	940.558 51	739.44575	1,499,050	7.106%	53,259	235,140	1,317,169	41,871	1,035,527
5/1/96	199.09939	39,819.88	30,378.06	159.27951	121.512.22	1,317,169	7.106%	46,797	39,820	1,324,146	35,701	1,010,173
11/1/96	1.149.099 39	229,819.88	170,132.64	919.279 51	660.53055	1,324,146	7.106%	47,045	229,820	1,141,371	34,827	844.942
5/1/97	171,788 68	34,357 36	24,680.65	137.429 51	86.723 39	1.141.371	7.106%	40,551	34,357	1,147,564	29,130	824.360
11/1/97	1.116.766 69	223.35736	155.687 04	893.420 51	622,788.17	1,147,564	7.106%	40,771	223,357	964,978	28,421	672,663
5/1/98	143.909 39	26.761 88	19,468 60	115.127 51	77,075 20	964,978	7.106%	34,284	28,782	970.481	23,191	656.458
11/1/98	1,088,909.39	217,781 88	142,949.22	671.127 51	571.796 90	970.481	7.106%	34,480	217,782	787,178	22,632	516,694
5/1/99	115.323 14	23.064 63	14.69064	92,250 51	56,763 35	787,178	7.106%	27,967	23,065	792,081	17,814	504,510
11/1/99	1.060.323.14	212.064 63	131.071.51	646,256 51	524.26605	792,081	7.106%	28,141	212,065	608,158	17.393	375,866
5/1/00	66,264 39	17,252 88	10.34765	69,011 51	41.390.59	608,158	7.106%	21,607	17.253	612,512	12,959	367,362
11/1/00	1,031,264 39	206,252 88	120.03637	625.011 51	460.153 48	612.512	7.106%	21,762	206,253	428.021	12,665	249,106
5/1/01	56,733 14	11.346 63	6.406 07	45,366 51	25,632 26	428,021	7.106%	15,207	11,347	431,881	8,588	243,907
11/1/01	1.001.733 14	200.34663	109.79469	601.366 51	439.179.56	431,881	7.106%	15,344	200,347	246,878	8,409	135,295
5/1/02	26,723 39	5,345.88	2.642.66	21,383.51	11.371.54	246,878	7.106%	8,771	5.346	250,304	4,664	133,109
11/1/02	971.72939	194,345.88	100,289.49	m.363 51	401,157.97	250,304	7.106%	8,893	194,346	64,851	4,589	33,465
5/1/03	(3,746 66)	(749.37)	(375.25)	(2,997.49)	(1.500.99)	64,851	7.106%	2,304	(749)	67,904	1,154	34,003
11/1/03	(195.246 66)	(39,049.37)	(18,974.67)	(156,197.49)	(75.096 67)	67,904	7.106%	2,413	(39,049)	109,366	1,172	53,143
	$13,924,118	$2,784,824	$2,045,700	$11,139,294	$8,182,800			$894,190	$2,784,824		$702,345	

Discounted at: 6.1057%

Reinvested at: 7.1057%

TEST CASE #3

Savings Analysis - 12 Year Declining Service

Date	Total Net Debt Service	20.00% Local Share of Debt Service	Present Value of Local Share of Debt Service	80.00% Federal Share of Debt Service	Present Value of Federal Share of Debt Service	Local Funds Beginning Balance	Investment Rate	Interest Earnings	Debt Service Draw	Ending Balance	Present Value of Interest Earnings	PV of Ending Balance
5/1/92	298,649.39	59,769.88	57.99925	239.079.51	231,997.00	2,000,000	7.106%	71,057	59,770	2,011,287	68,952	1,951,705
11/1/92	1.246.649.39	249.769 88	235.19066	999.079 51	940.762 64	2,011,287	7.106%	71,458	249,770	1,832,975	67,287	1,725,983
5/1/93	275.611 69	55.162.36	50,403.77	220.649 51	201.615.07	1,832,975	7.106%	65,123	55,162	1,842,936	59,505	1.683.954
11/1/93	1,225,811.69	245,162.38	217,377.13	980,649.51	869,508.51	1,842,936	7.106%	65,477	245,162	1,663,250	58,056	1,474,747
5/1/94	251.349.39	50,269.88	43.252.17	201,079.51	173.cx36.66	1,663,250	7.106%	59,093	50,270	1,672,073	50,843	1,438,650
11/1/94	1.201.34939	240.26966	200,603.89	961,079 51	602.41557	1,672,073	7.106%	'59,406	240,270	1,491,209	49,599	1.245.026
5/1/95	225.69939	45.139 88	36,571.30	*160.550* 51	146.26521	1,491,209	7.106%	52,980	45,140	1,499,050	42,923	1,214,496
11/1/95	1.17569939	235,139 88	164.661.44	940.559 51	739.44575	1,499,050	7.106%	53,259	235,140	1,317,169	41,871	1.035527
5/1/96	199.0993s	39,819.88	30,378.06	159.27951	121.512.22	1,317,169	7.106%	46,797	39,820	1,324,146	35,701	1,010,173
11/1/96	1.149.099 39	229.61966	170,132.64	919.279 51	660.53055	1,324,146	7.106%	47,045	229,820	1,141,371	34,027	044,942
5/1/97	171,788.69	34,357 30	24,680.65	137.429 51	96,723 39	1.141.371	7.106%	40,551	34,357	1,147,564	29,130	'324.360
11/1/97	1,116,786 69	223.35736	155.697 04	693.429 51	622,788.17	1,147,564	7.106%	40,771	223,357	964,978	26,421	672,663
5/1/98	143.909 39	26.761 66	19,468 80	115.127 51	*77.075 20*	964,978	7.106%	34,284	28,782	970.461	23,191	656.456
11/1/98	1,088,909.39	217.761 88	142.94922	671.127 51	571.796 90	970,481	7.106%	34,480	217,782	787,178	22,632	516,694
5/1/99	115.32314	23.064 63	14.69064	92,250 51	56,763 35	787,178	7.106%	27,967	23,065	792,081	17,814	504,510
11/1/99	1.060.323.14	212.064 63	131.071.51	648.256 51	524.26605	792,081	7.106%	28,141	212,065	608,158	17.393	375,866
5/1/00	66,264 39	17,252 88	10.34765	69,011 51	41.390.59	608,158	7.106%	21,607	17.253	612,512	12,959	367,362
11/1/00	1.031264 39	206,252 88	120.03637	625.011 51	460.153 49	612.512	7.106%	21,762	206.253	428.021	12,665	249,106
5/1/01	56.73314	11.346 63	6.406 07	45,366 51	25,632 26	428,021	7.106%	15,207	11,347	431.681	8,588	243,907
11/1/01	1.001.733 14	200.34863	109.79469	601.366 51	439,179.58	431,881	7.106%	15,344	200,347	246,878	8,409	135,295
5/1/02	26.723 39	5,345.88	2,842.88	21.363.51	11,371.54	246,878	7.106%	8,771	5.346	250,304	4,664	133,109
1111102	971.72939	194,345.88	100.269.49	*m.363 51*	401.157.97	250,304	7.106%	8,893	194,346	64,851	4,509	33,465
5/1/03	(3,746 66)	(749.37)	(375.25)	*(2.997.49)*	(1,500.99)	64,851	7.106%	2,304	(749)	67,904	1.154	34,003
11/1/03	(195,246 66)	(39,049.37)	(18,974.67)	(156,197.49)	(75.090 67)	67,904	7.106%	2,413	(39,049)	109,366	1,172	53,143
	$13,924,118	$2,784,824	$2,045,700	$11,139,294	$8,182,800			$894,190	$2,784,824		$702,345	

Discounted at: 6.1057%

Reinvested at: 7.1057%

V. COST REDUCTION TECHNIQUES

INTERNATIONAL VENDOR FINANCING

In international vendor financing, a foreign equipment manufacturer provides financing for the products they sell to a U.S. transit agency. Most often these products are bus and rail vehicles, but on occasion the financing may include an entire transit project. In this section we will discuss primarily vendor financing related to bus and rail vehicles. The specialized circumstances of international vendor financing for an entire transit project are discussed in the private ownership section.

In most vendor financing activities, the equipment manufacturer acts as an intermediary between a financial institution, such as a commercial bank headquartered in the vendor's domicile, and a U.S. transit agency to arrange for the financing of the latter's equipment needs. Other financing institutions may also be involved in international vendor financing such as leasing corporations and export credit banks. Leasing corporations are active in cross border leasing. Export credit banks are government-owned banks which promote the sale of exports by domestic manufacturing companies. They promote export sales by arranging the financing of domestic manufacturers' sales to foreign customers. Export credit banks and commercial banks often combine forces to provide the lowest cost of consumer capital to promote domestic manufacturer equipment sales. We include both commercial and export banks in our discussion of international vendor financing.

The first part of this section will review the circumstances under which an agency may proceed with international vendor financing. Next we discuss the steps involved in securing a request for financing proposals from manufacturers and an example of the terms and conditions a transit agency may receive from a vendor financing proposal, either a commercial bank, export credit bank or combination of the two. Finally we describe export-import bank financing and a hybrid vendor financing proposal that combines credit enhancement provided by an export credit bank with the tax-exempt financing authority of a transit agency.

Why Seek Vendor Financing Proposals?

The bus and rail equipment market in the U.S. exceeds several billion dollars per year. It is a very competitive market with many manufacturers located throughout the world. The highly competitive nature of the equipment manufacturing business provides an incentive for U.S. transit agencies to evaluate the cost of financing equipment through tax-exempt means, as described earlier, or by a foreign vendor acting as an intermediary for commercial banks and/or export credit banks.

In most circumstances capital raised in the U.S. tax-exempt market will be cheaper than capital provided by a foreign commercial bank and/or export credit bank. However, with the

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anniversary of the contract signing. The price for the second and third sets of 25 cars was equal to the first car order multiplied by the change in the value between the U.S. dollar and the German Mark at the second and third anniversary dates for each additional 25 car batch. The German manufacturer shifted the currency risk from itself to MTDB and was willing to reduce the base price of its vehicles to eliminate this aspect of its future risk exposure. The result was a lower vehicle price for MTDB.

The down side of borrowing in a foreign currency is that the transit agency would have to repay the loan over several years (10- 15, depending on circumstances) in the foreign currency. This would require the agency to hedge its debt service currency exposure for an extended period of time. Extended foreign currency hedging is the development of the foreign exchange markets, a $300 billion dollar a day market. This market has evolved to allow for extended hedging of foreign currency. The extended hedge, of up to 15 years, allows the transit agency to fix the U.S. dollar cost of its borrowing in the foreign currency. Extended currency hedging was done by Los Angeles County in its recently completed, Yen denominated pension fund borrowing. The cost of the hedge and the interest rate paid on the bonds was less than its cost of U.S. denominated tax-exempt borrowing.

For the foreign currency loan to be cost-effective, the cost of hedging 10 to 15 years of debt service payments in a foreign currency plus the rate on the borrowing would have to be less than the agency's tax-exempt cost of borrowing. The analysis would compare the "true interest cost" of the U.S. tax-exempt borrowing to the foreign denominated borrowing including the value of the discount provided by a lower cost vehicle, as in the MTDB case.

Request for International Vendor Financing Proposals

As discussed above, circumstances in the international credit markets may make it less costly for a transit agency to use vendor financing for its equipment purchases than traditional tax-exempt debt. When an agency is prepared to receive bids for equipment it should include a vendor financing section. This section will explain the vendor financing requirements. These requirements include a general description of the legal structure of the financing; a term sheet, and a calculation of the effective interest rate, or "True Interest Cost" of the borrowing. It will allow the agency to compare the cost of vendor financing with more traditional financing sources such as tax-exempt debt.

In system and vehicle procurements involving FTA funding, it is critically important that the procurement strategy be consistent with Federal procurement guidelines for Buy America, Competitive bidding, DBE/MBE, and other Federal requirements. Failure to follow Federal guidelines could render the project ineligible for Federal funding.

Buy America Provisions

In all federally funded transit projects, the "Buy America" procurement provisions apply to all equipment and services acquired as part of the project. The effect of the Buy America provisions can be limiting on a transit agency's ability to fully utilize international finance support where there is a competitive domestic supplier.

It is important to note, however, that the reason for utilizing international vendor finance is to obtain an overall cost reduction to the transit agency. International vendor finance is no better or worse than other options and in many cases is more expensive than traditional tax-exempt finance. Therefore, limitations resulting from Buy America, while they give a limited advantage to domestic suppliers, only restrict the transit agency's ability to select an international option when the cost differential is within twenty-five percent.

In some cases, Buy America provisions have been avoided by careful definition of the "Federal Project" so as to exclude project elements best suited to international finance solutions, such as rail cars. The ability of a transit agency to structure the definition of its project to exclude certain elements from the provisions of Buy America is subject to negotiation with the FTA as part of the Full Funding Contract process. It should be noted, however, that a transit agency that accepts federal operating assistance is responsible for complying with all Buy America requirements on its full capital program.

FTA should be closely consulted in the planning phase of the Request for Proposals.

The description of the legal structure includes the parties involved in the transaction and their responsibilities, the legal documents required to complete the financing and a general description of the sources of security and/or collateral for the financing. The complexity of the legal description will depend on the type of transaction being considered, the source and diversity of the revenues supporting the financing, competing claims on these revenues, and the use of the revenues in other existing or proposed transactions. It is important that the agency describe the lien position the vendor financing loan will have on these revenues. Will the lender have a first claim on the revenues or will its claim be subordinated to other existing and proposed financial obligations? This information, along with other details about the project will allow the lender to assess its risk and price its financing proposal accordingly.

In addition to describing the lender's lien position in its request for vendor financing proposals, a transit agency would also include as much information as practical regarding other aspects of the project that allow the lender to assess risk. This information includes the estimated amount of the financing, how the agency will use the borrowed proceeds, historical project cost information, historical and forecasted revenue projections for sources of revenues used to support the proposed financing, additional borrowing needs to complete the project or purchase additional equipment, and general financial background information such as an annual comprehensive financial report.

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Indirect Loans

In an indirect loan the export-import bank provides funds to a financial intermediary, most often a commercial bank, which then extends the loan to a foreign buyer. The export-import bank will charge the intermediary an interest rate below the OECD Arrangement Rate. The intermediary will charge the foreign buyer a rate that reflects its profit margin and repayment risk assessment. The other terms and conditions of the indirect loan are similar to direct loans and will vary under different circumstances. For example, if the manufacturer is a government owned enterprise, the export-import bank may offer exceptionally lenient terms to the intermediary who is able to pass on these savings to the foreign buyer. This improves the chances of the manufacturers selection (assuming it is competitive in the price of the procurement and the selection criteria also includes financing terms).

Loan Guarantees

The third form of export-import bank financing is to provide repayment protection for private sector loans to creditworthy foreign buyers. In most guarantee loan cases a commercial bank will extend a loan to the foreign buyer. The loan agreement is between the foreign buyer and the commercial bank. However, as an incentive to reduce the rate charged to the foreign buyer, the export-import bank will guarantee the loan payments by the foreign buyer to the commercial bank.

The commercial bank depends on the credit worthiness of the export-import bank for loan repayment, which in most cases is very high. This allows the commercial bank to provide favorable terms to the foreign buyer. The export-import bank assess the foreign buyer's credit and charges a sliding scale fee to the commercial bank depending on its credit assessment of the foreign buyer.

Credit Enhancement

In some situations, an export-import bank may directly support a transit agency's financing with an irrevocable direct pay letter of credit to lower the cost of the agency's borrowing on the tax-exempt markets. A transit agency may decide to obtain funds for purchasing equipment through the sale of tax-exempt bonds, The bonds will have a credit rating based on the revenues pledge to pay debt service and other credit factors as discussed above. This rating can be enhanced by supporting the borrowing with a letter of credit from a AAA or AA export-import bank.

In a letter of credit supported issue, a commercial bank provides the funds for payment of principal and interest on the bonds in the event that the issuer does not make the debt service payment to bondholders. The bondholder, therefore, relies on the credit of the commercial bank for its principal and interest payments. The rating on the bonds reflects the rating of the letter of credit bank. Since export-import banks carry high ratings, the interest rate on the bonds would

be lower than bonds not secured by a letter of credit, assuming that the rating of most transit agencies is below the AA category.

To evaluate the benefit of a letter of credit provided by an export-import bank, the transit agency would determine the “True Interest Cost” (TIC) of a borrowing on the tax-exempt markets with and without the letter of credit. If the difference between the interest rate on the bonds with the letter of credit as compared to bonds without the letter of credit is greater than the cost of the letter of credit, then the TIC is reduced and the transit agency benefits from the export-import bank credit enhancement.

CROSS BORDER LEASING

Cross border leases involve the purchase and leaseback of U. S. public transit vehicles by foreign investors for the purposes of achieving beneficial tax consequences in their nation of domicile. In nearly all examples, the nature of ownership transfer is only a legal mechanism for the purposes of satisfying tax requirements and no actual possession of transit vehicles is contemplated or desired.

The form of Cross Border lease most often utilized is known as a "Defeased Leveraged Lease." The following are the major components of this type of structure:

a. The U.S. transit operator enters into a purchase agreement with a vehicle manufacturer. The manufacturer is paid invoice price for the vehicles. In some alternative structures, the purchase option of the transit property is assigned to the cross border Lessor and ownership of the vehicles passes directly from the manufacturer to the Lessor.

b. The transit operator effects a sale of the vehicles to the cross border Lessor and a simultaneous agreement to lease-back the vehicles from the Lessor at a specified lease rate with a defined purchase option at the end of the lease term. The cross border Lessor is often a partnership of several foreign corporations seeking a shelter from taxes imposed by their respective countries. In Japanese examples, such a partnership is known as a Tokumei Kkumiai" or "TK."

c. At lease inception, the transit operator commits to exercise its purchase option.

d. The cross border Lessor obtains a loan with which to pay for the transit vehicles. The loan is generally in the area of 80% or more of the value of the vehicles, thus providing the leveraging aspect to the Lessor. For reasons pertaining to foreign tax law, the lending bank is usually a branch of a bank headquartered in a third country. The Lessor assigns the lease payments to the lender as collateral. The lender does not typically have a security interest in the rail vehicles.

e. The preceding describes the basic lease structure, however, cross border leases are commonly defeased in their inception. Defeasance is desirable because it reduces currency risk, decreases the risk of withholding taxes being imposed and defuses some of the credit issues which might exist for the Lessor. Defeasance is accomplished in the following manner: Following the preceding steps, the Lessee, (transit agency), contracts with a third party obligor, (another branch or affiliate of the lending bank), to assume the lease payments and the purchase option in return for payment of the present value of those obligations. Once this is accomplished, the Lessor will release the transit agency from its lease payment and purchase option requirements.

f. The transit agency retains the difference between the purchase price paid by the Lessor and the amount it has paid to the obligor to defease the lease. Accordingly,

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Each transaction is unique, with its own problems, issues, terms and conditions. In addition, the amount of work and degree of difficulty varies between nations and even from one time period to the other. Recognizing that all fees are negotiated, the following is a representative example of fees on a cross border leasing transaction (assumed size: **$20,000,000**):

Legal fees: Tax, domestic and foreign counsel:	**$200,000**
Placement agent (financial advisor) fee: (37-200 basis points. Assumed 150 basis points):	**$300,000**
Defeasance bank: (25 - 75 basis points. Assumed **50** basis points):	$100,000
Lending bank: ($100,000 - $300,000. Assumed $150,000):	$150,000
Printing, travel, miscellaneous fees:	**$50,000**

In this example, fees total $800,000. If a benefit to the transit agency of **7%,** or **$1,400,000,** was achieved, over half of the savings would be used up in fees. Transactions of much larger size, however, would have only an incremental increase in the amount of fees, and thus would be much more financially attractive to Lessee transit agencies.

From the perspective of the Lessor, there is also concern over the size of the transaction. Because the Lessor is often a group of corporations or syndicate of high tax liability individuals, a large size transaction is more desirable in that it produces a greater amount of tax shelter with the ease of only having the equipment of one lessee agency. Many small lessee agencies result in increased costs, and thus decreased returns to the Lessors.

The term of a cross border lease must generally fall between 15 - 20 years. The term cannot exceed the useful life of the vehicle. Japanese leases are generally 16 years in duration.

Germany, France and Sweden impose significant "Country of Origin" limitations of the type of equipment they will approve for cross border leasing purposes. Japan does not have a country of origin requirement, however, the Japanese impose other significant limitations and criteria on assets other than aircraft. Hong Kong has no "Country of Origin" requirements.

Risk Issues

Cross border leasing allows eligible transit operators the opportunity to leverage rail vehicle assets by taking advantage of various provisions of foreign tax laws. This provides a source of revenue from foreign sources that can be used to subsidize the public U.S. transit agency. To

this extent, such transactions should be considered as an innovative funding technique like developer financing, vendor financing or other such strategies.

Cross border leasing, however, is not without risks to the transit operator and is not a desirable revenue generating vehicle for all transit properties. The following are the most significant risks transit operators should consider.

As noted above, cross border lease transactions require a minimum size to be cost effective. Transit operators who attempt leases with lesser sized transactions risk losing a substantial amount of benefit due to fees and expense.

Although a defeased lease eliminates the risk that a transit operator will fail or be unable to make a lease payment, transit operators nonetheless bear significant risks in the event of an early unwind of the lease. Such unwinds can occur when vehicles are damaged or destroyed such that they cannot continue in service, or in response to changes in the tax laws of foreign governments. Transit agencies obviously have no control over the timing of either of these occurrences. In the event of an unwind, the transit agency could be liable for tax liability of the Lessor. Such a liability would not be fully funded from the defeasance account.

Lease unwinds that are triggered by actions of the Lessee or the Lessee nation (in the case of transit leases, the U.S. government), typically carry the highest degree of liability for the transit operator. Such actions may include the removal of vehicles from service due to budgetary, service reconfiguration or other reasons, the imposition of U.S. withholding tax on the lease revenue stream paid by the defeasance bank, or other actions of the transit agency or U.S. government that would render such leases illegal. In these cases, the Lessee would usually bear the full financial burden of the lease termination. In cases of vehicle destruction, causality insurance in an amount sufficient to cover the liability under the lease in addition to the replacement value can be and usually is obtained, thus minimizing risk exposure in these cases.

Lease unwinds may be precipitated by actions effecting the intermediary defeasance and loan bank(s). For example, the interest rate charged for the transaction could be found to by improperly high under the laws of the nation in which the bank is located. In such instances, the costs of the unwind are shared between the Lessor and Lessee in a negotiated amount. Perhaps the most catastrophic event would involve the bankruptcy of the defeasance bank ending its obligation to continue to make principal and interest payments, and thus compelling the transit agency to make enforceable real rent payments to the Lessor. The size of the banks selected to serve as defeasance banks make this situation highly remote.

In cases where the actions of the Lessor or the Lessor's home country result in a lease unwind, the liability is shared on a negotiated basis between the Lessor and Lessee. The Lessee's liability ranges from no liability to a proportional payment to the Lessor. Unwinds may occur due to the imposition of tax liability or withholding tax responsibility by the Lessor's nation.

The actual cost of a lease unwind varies between nations, types of equipment, the date of the unwind and the conditions that ring about the unwind. Generally the liability of the transit

this extent, such transactions should be considered as an innovative funding technique like developer financing, vendor financing or other such strategies.

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TURNKEY PROCUREMENT OPPORTUNITIES

A popular concept for financing transit projects that has emerged in recent years and has received the attention of the Federal Transit Administration is the use of turnkey procurement. In a turnkey project, a government entity responsible for the regulation and supervision of a transit project enlists the aid of a private entity in the design, construction and/or operation of a transit facility. To meet its goals of advancing new technologies and techniques and lowering the cost of constructing new fixed guideway systems, ISTEA provides for the FTA to approve at least two turnkey demonstration projects during its period of authorization. The Act defines a turnkey project as "a project under which a recipient contracts with a consortium of firms, individual firms, or a vendor to build a transit system that meets specific performance criteria and which is operated by the vendor for a period of time." Turnkey procurement, however, embodies several different modes of interaction within this public-private arrangement. The types of opportunities that are considered here include: (1) Turnkey projects; (2) Super-turnkey projects;(3) Build-Operate-Transfer (BOT) projects; and (4) Build-Transfer-Operate (BTO) projects.

In a turnkey project, a "public agency contracts with a private entity for delivery of a complete and operational project that will be publicly-owned."[1] Essentially, the contractor, or developer, is engendered with full responsibility for project design and construction. Once the project is completed, the developer "turns the keys" over to the public agency, certifying that the project is ready for use. Operations and maintenance of the project is then secured either by the public agency, the turnkey contractor, or a designated third party.[2]

In addition to the basic elements of a turnkey project, the private contractor in a super-turnkey project may receive real estate development rights along the project right-of-way, at station areas, and potentially at off-corridor locations in exchange for partial project funding, thereby reducing the need for public investment.[3]

Under a build-operate-transfer form of procurement, the private entity is given "authority to design, build, own, and operate a facility for a period of time, after which the title reverts to the public sector. During the period of private ownership and operation, the contractor is able to generate profits from the service provided."[4] Any financing for construction and operations is provided for "privately, on a non-recourse basis using projections of future net revenues."[5]

The build-transfer-operate form of procurement is variation of BOT that has been proposed in California as a means to enable private entities to "reduce their liability exposure related to new highway development." In this particular proposal, the private entity will transfer ownership of the highway to CALTRANS after design, financing and construction has been

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[1] U.S. Department of Transportation, Federal Transit Administration, Turnkey Procurement Opportunities and Issues, FTA-MA-08-7001-92-1, June 1992, p. 8.
[2] Ibid.
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The composition of the private partner and its legal structure is also variable. It may consist of a new company created for the project, a prime contractor or joint venture of existing companies, partnerships combining the real estate development and the rail project or a combination of these approaches. In most cases an equipment manufacturer, usually the vehicle provider, plays a primary role along with the general contractor.

The legal structure of the private partner is important because it is the entity that the government sponsoring agency relies upon for any guarantees regarding completion of the project and revenue operations. The government sponsoring agency must be satisfied that the entity has sufficient working capital to prevent delays, has a good reputation in the industry for completing similar projects on time and within budget, and has a good reputation for settling contract disputes and change orders in a fair and efficient manner.

What are the Turnkey Participant Responsibilities?

The sponsoring government agency is accountable to the elected officials that established the public policies allowing the project to proceed. They insure that the project complies with the legislation and other legal conditions that authorizes the government agency to sign a turnkey agreement. The authorizing legislation will provide guidance on the structure of the turnkey agreement.

The primary role of the sponsoring agency is to select the private partner, negotiate a turnkey agreement and monitor the progress of the project.

The way in which the government agency selects the franchisee will depend on several factors. The first is the availability of funds to do conceptual design and alignment engineering to determine whether the project is ***potentially*** feasible. We emphasize potential feasibility because the agency will not know whether the project is in fact feasible until the private partner obtains financing. If no funds are available for this work then the agency may have to consider soliciting proposals for a private contractor. Because of the lack of project information, the proposal may be a request for qualifications that includes an analysis of the financial feasibility of the project.

If funds are available to do initial feasibility work, then the sponsoring agency should consider a request for proposals (RFP) to select the private contractor. A few critical issues the agency would consider in the RFP are:

- Does the sponsoring agency want to select the private contractor based on a firm fixed price?

- Does the sponsoring agency want to negotiate the turnkey agreement after selection or require the private contractor to accept the turnkey agreement at the time of submittal of the proposal? If the latter, what amendments may the agency allow to the turnkey agreement when more is known about the project?

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Economic Risk

Do the farebox revenues paid by rail passengers provide an income stream to amortize debt, pay operating expenses and provide an adequate rate of return for investors? Several elements will affect the answer including the validity of the revenue stream and conditions that influence the capital and operating cost of the project.

The ridership modeling will take into consideration assumptions about status of the highway and transit network system; socio-demographic inputs such as population growth and distribution, income and employment forecasts, land utilization; assumptions regarding the distribution of trips for home based work and non-work trips, special generators such as sports facilities, convention centers, airports, etc.; assumptions influencing the choice of travel modes such as the price of gasoline, parking, cost of maintaining an automobile, bus fares and service levels, rail fare levels and service frequency.

The ridership modeling is done on an iterative basis with cost estimates for the project. For example, the first estimate of project cost will require a certain level of daily ridership at a specific fare level to support the financing requirements. The ridership modeling may show that the number of passengers required to generate the minimum level of fare revenue is greater than the carrying capacity of the rail project assumed in the ridership forecast. Additional trains may be necessary to accommodate this increase passenger load which effects the cost of the system. The financial institutions evaluating the feasibility of the project will carefully study the relationship between the engineering cost assumptions and the carrying capacity of the system assumed in the ridership modeling.

The rail project may include revenues other than fares in its income stream. These may include real estate related revenues and/or other revenues generated by linkages to the project.

Real estate related revenues may come from real estate projects proposed by the franchisee and/or impact fees, assessment fees/bonds, or other special fees that are derived from the project's added value to real estate within the rail corridor. Both of these sources of revenues have significant risks.

The private contractor may propose to construct, for example, an office building at one of the station sites. The office building, when leased at an assumed level, will generate a lease revenue stream. This stream is needed to pay for the loans associated with the real estate project and also provide support for the rail project. Any claim of additional income from real estate that will flow to support the rail project must be carefully evaluated. The sponsoring agency should require that the real estate project contain a cash flow "pro-forma" analysis; a detail of the financing assumptions including lender requirements and interest rates; a design component for evaluation by the government agency responsible for real estate development permits; and other details of the real estate project that allow for a complete urban design, cost, financing, and environmental impact and financial feasibility review.

If the rail project financing includes the use of developer impact fees, benefit assessments, or other fees, a careful review of the legal authority to assess these fees is necessary. This

authority may rest with the sponsoring agency or another governmental entity. If another governmental agency is involved in the approval of a real estate project, benefit assessment proposal, impact fees or other value capture related activity, the administrative and political risks to the private partner increase. The sponsoring agency has to carefully evaluate whether the private contractor has properly accounted for these risks. A schedule of activities showing the required approvals and the time line for achieving the appropriate approvals is necessary. In this way the sponsoring agency can realistically evaluate the assumptions used by the private contractor to generate income for the project.

For example, suppose the rail project includes the creation of a benefit assessment district. The private contractor would most likely expect the responsible government agency to issue benefit assessment bonds to support construction financing. In its proposal, the private partner would include the timetable for the creation of the district and issuance of bonds and all the intermediary steps in between that are necessary to sell bonds. These include the district boundaries, method of assessment, any property owner or voter election procedures, etc. In this way, the sponsoring agency can evaluate the consistency between the timetable shown for issuing bonds and the use of these bond proceeds in the overall financing plan of the project. It will also allow the sponsoring agency to review other administrative and political project risks.

Where forecasted revenues are not sufficient to pay for project construction financing and operating costs, some form of local public subsidy must be identified.

Cost of Completion Risk

Another aspect of economic risk is project cost. Cost estimates evolve along with project design and construction. On the financing side, the terms and conditions of any bank loans and equity investor requirements also evolve. The sale of any equity or debt for the project is unlikely until the project has completed environmental assessment and any mitigation costs required by either the sponsoring agency or other government bodies are known.

Once the project has received its initial funding, the financial institutions and investors will require careful monitoring of construction to insure that their money is being spent wisely and that project management is controlling costs. As in any other project financing, unless the facility is built and generating revenues, the investors will not begin to recuperate their investment. It may be in the sponsoring agency's interest to coordinate project oversight with the financing institutions and investors.

Legal Risks

Financial institutions lending funds to the private contractor want assurances that the activities they will engage in are within the federal, state, and local authorizing statues. Every aspect of the project will be carefully scrutinized to insure that the private contractor and the public agency have followed the appropriate laws in regards to:

- The Turnkey Agreement
- Federal and state codes for construction and operation of a rail system

- Federal and state law regarding any taxable and tax-exempt financing instrument
- Environmental law
- Federal, State and local laws related to real estate development (e.g. redevelopment law, land use, zoning, etc.)

The complexity of a turnkey rail project leaves room for many areas of potential litigation and additional project cost. Financing institutions will assess the projects exposure to legal challenges and determine the "price" of the project's vulnerability. This price is incorporated in the private financing term sheet and included in legal documents associated with each financing instrument. The basis for this "price" is often determined by the political and administrative risks associated with the projects.

Political Risk

Political risk refers to the interaction of the project with its community environment and the effect of this interaction on project cost. This interaction is characterized in the following way: the promoters of the project, i.e., the sponsoring agency and the private partner, provide the media with project progress reports beginning at the development stage and continuing through construction. The media, in turn, provides the community with information about the project. They, in turn, react and try to guide it toward their goals, which are often mixed, Some elements of the community may support the project, others may want it stopped and the majority most likely remain indifferent. The elected officials responsible for the project have to mediate these competing interests. The outcome of this mediation can have a significant impact on costs.

The most intense mediation takes place at the environmental impact stage. At this point the elected officials representing the sponsoring agency has the most cost impact on the project. For example, there might be a section of the project that passes by a residential community on an elevated structure. During the environmental process, the community demands that the elevated section be changed to a subway, with an obvious significant increase in cost. This is an extreme example, but represents the process by which costs increase as the project evolves. Financial institutions will assess the ability of the sponsoring agency officials to limit changes to the project that cause cost increase.

Other political risks are associated with the turnkey agreement. Because of the economic weakness of rail projects, most turnkey projects will require some degree of support from the sponsoring agency in order to obtain private financing. For example, this support may be in the form of a guarantee of a minimum gross revenue level that is sufficient to pay operating costs, amortize debt and provide the return to equity required by investors. If the subsidy approach is not used, the private operator will most likely require the ability to set fares at whatever level is necessary to maintain the financial viability of the project.

Both of these support approaches have political risks. The elected officials sponsoring the project may not allow the franchisee complete control over fare levels and also operating schedule. They may provide a level of gross revenue support, but perhaps not in the form required by the financing institutions.

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3. Benefit Assessment Districts: These are specially designated districts around transit stations, for which benefiting landowners pay assessment fees for proximity. The fees can help finance capital projects though they are most appropriate for funding operating deficits.

4. Tax Increment Financing: Under this approach, the property tax base for benefiting property owners is frozen at a certain point in time. Incremental gains in property tax receipts are earmarked for securing capital obligations or funding operating deficits. Like special assessment revenues, tax increment revenues are weak security devices.

Cost Sharing

1. Voluntary Agreements: These are agreements between transit agencies, developers and private property owners that reduce the development costs of each party through coordinated planning, design, and construction. Examples include shared parking facilities; ventilation, heating and cooling systems; and land assemblage and purchase.

2. Incentive-Based Agreements: Under this form, public agencies grant real estate developers development bonuses (e.g. higher FAR's) in exchange for partial or full funding or other on-sit public infrastructure. This infrastructure may include pedestrian amenities, stations, transfer centers, and waiting areas.

3. Mandatory Programs: Where such programs exist, developers building in a designated area may be required to provide transit facilities and services as traffic mitigation measures of their development projects.

Common Problems To Be Aware Of

Bringing a joint development project from the idea stage, to the concept stage, to the implementation stage is not always easy. Below are some of the common problems which may require attention and serve as useful check points in evaluating candidate projects.

A. Establishing the relationshiu between an existing or planned transit facility and a real estate develonment uroject: This step is typically not done or when it is done, it is not done very well. One of two types of problems are experienced in this area; either travel demand forecasting models are not sensitive to site specific conditions, or the economic linkage is not established sufficiently.

B. Coordinating the site and functional plans of the two facilities: Because access is so important to overall success, care must be taken that these plans are prepared. It is important that the real estate development or commercial aspects are viewed as activities which do not detract from mass transit use, and are thus defined as incidental uses.

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Common Problems To Be Aware Of

Bringing a joint development project from the idea stage, to the concept stage, to the implementation stage is not always easy. Below are some of the common problems which may require attention and serve as useful check points in evaluating candidate projects.

A. Establishing the relationshiu between an existing or planned transit facility and a real estate develonment nroject: This step is typically not done or when it is done, it is not done very well. One of two types of problems are experienced in this area; either travel demand forecasting models are not sensitive to site specific conditions, or the economic linkage is not established sufficiently.

B. Coordinating the site and functional plans of the two facilities: Because access is so important to overall success, care must be taken that these plans are prepared. It is important that the real estate development or commercial aspects are viewed as activities which do not detract from mass transit use, and are thus defined as incidental uses.

C. Determining the market and financial feasibility of the real estate develoument nroject: If a developer is making a proposal, something similar to this step will be done by the

VI. APPENDIX A

FTA - GLOSSARY OF PUBLIC FINANCE TERMINOLOGY

Acceleration - The means by which the Trustee of a bond issue may make all future payments of principal immediately due and payable after the issue has been declared to be in default.

Accrued Interest - The dollar amount of interest earned between the dated date and the date of delivery. This amount is usually included in the purchase price of the security and is normally rebated back to the investor with the first coupon payment.

Ad valorem tax - A tax based on property value. It may also be based on the assessed value of the property.

Advance Refunding - As the name implies, this is the refunding of an outstanding bond issue by means of a new issue. Such refundings can only be done if the issue being refunded includes terms allowing for the bonds to be "called" by the issuer. An advance refunding is normally performed to achieve substantial interest rate savings for the issuer. Outstanding bonds with high interest rates are replaced with bonds with lower interest rates.

Agreement Among Underwriters (AAU) - The document which forms the Underwriting syndicate and allows the managing Underwriters to act on behalf of the syndicate.

American Municipal Bond Assurance Corporation (AMBAC) - Insurance company which will insure a bond issue's payments of principal and interest AMBAC insured bonds are rated AAA.

Alternative Minimum Tax (AMT) - Established in the 1986 Tax Reform Act to ensure that individuals and corporations pay some amount of federal income tax on the interest income from certain tax-exempt bonds.

Arbitrage - This is the earnings difference between invested bond proceeds and the interest paid on the bonds. The 1986 Tax Reform Act states that these earnings must be rebated back to the Federal Government unless certain conditions are met (e.g. choosing the two-year penalty schedule).

Asked Price - The price at which municipal securities are offered to buyers or the price at which sellers agree to take.

Assessed Valuation - The valuation of real property for the purposes of taxation.

Bad Money - The limitation, now equal to 5% of the bond proceeds, imposed by the 1986 Tax Reform Act which determines the percentage of the proceeds from private activity bonds which may be used for any activity without violating the conditions for tax-exemption of interest on these bonds.

Balloon - A principal amount, equal to a large percentage of the total principal amount, to be retired at maturity. A Mandatory Sinking Fund redemption is normally required for such amounts.

Bank Qualified (Bank Eligible) - Refers to issues from municipalities issuing no more than $10,000,000 of general debt and lease obligations annually. Certain financial institutions are allowed to deduct 80% of the interest expense associated with such issues, thereby increasing the demand for the issue among investors.

Bankers' Days - The number of days in a period based on a 360-day year.

Bankers' Acceptances (BA's) - A money market security reflecting time drafts drawn on and accepted by banks. They are an investment, the credit quality of which is represented by the credit rating of the institution on which they are drawn. Only a few states, California being one of them, allow the proceeds from some municipal securities offerings to be invested in these instruments.

Basis Point - An amount used to express yield differentials equal to 1/100 of a percent (.01%).

Bearer Bond - These bonds are no longer issued. They have coupons attached which entitle the holder of the bond to the interest payable on the bond and are redeemable at banks and at the Issuer's agent. The only proof of ownership is the possession of the bond. See ***Registered Bonds.***

Best Effort - An offering which is not purchased from the Issuer in its entirety (is not underwritten), but is sold on a "sell what can be sold" basis by dealers.

Bid - The price someone will pay for a security or a purchase offer.

Blind Pool - A program in which Bonds are issued for the benefit of pool members whose projects are not openly determined at the time of issuance. The members finance their projects through loans from the Blind Pool.

Block - A large amount of Bonds (i.e. normally larger than a ***Round Lot).***

Blow-Out - A new issue which sells exceedingly well in the market.

Blue List - A list of dealer offerings of Municipal Bonds - published daily.

Blue Sky Laws - State laws established to protect the public from securities frauds.

Bud Money - The limitation, now equal to 5% of the bond proceeds, imposed by the 1986 Tax Reform Act which determines the percentage of the proceeds from private activity bonds which may be used for any activity without violating the conditions for tax-exemption of interest on these bonds.

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Cash Flow - The combined return of interest and principal payments received from held securities.

Cash Settlement - The same-day delivery of funds from a government securities transaction.

Certificate of Deposit (CD) - A certificate representing a time deposit of fixed maturity issued by a commercial bank. These interest-bearing certificates are traded on a yield basis with the interest computed on the basis of a 360-day year (Bankers' Days).

Certificate of Participation (COP) Lease - A type of lease in which the lessor (or designated Trustee) issues shares (in the form of COP's) which entitle the holder to a portion of the lessor's interest in the lease.

Clearing House Bank - A member bank of a clearing house association which exists to facilitate the clearing of checks, drafts, and other items drawn on banks.

Clearing House Funds - Funds from Clearing House Bank checks, which will be honored on the business day following the day of presentation for payment.

Closed-End Fund - A mutual fund with a fixed number of shares. Shares cannot be redeemed and are traded on the open market at prices which may differ from the underlying net asset value per share.

Collateral - Property (quite often securities) pledged by a borrower to secure payment of a loan.

Collateral Loan - A loan backed by some type of property (oftentimes securities).

Co-Manager - A manager participating in a securities offering who is normally not responsible for maintaining the books of account for the offering. (Compare to Lead Manager).

Comfort Letter - A letter to Underwriters of a securities offering from an independent accountant which is delivered both at the sale and close of an Issue for the purpose of providing information concerning financial matters which may have occurred since the last audited financial statement of the Issuer.

Commercial Paper - Unsecured debt obligations with short (usually less than 180 days) maturities which are used to provide funds for operating expenses or for interim financing of permanent capital improvements. Lines of credit are generally used for the backing of such offerings.

Commission - The agent fee a broker receives for buying or selling securities.

Competitive Sale - A sale of securities in which Underwriters submit bids to purchase the securities.

Concession (or Reallowance) - The maximum portion of the funds received for the sale of securities that an Underwriter may give up to another registered securities dealer, who may or may not be a member of the underwriting syndicate, as determined at pricing.

Confirmation - A detailed report given to a customer which outlines all of the relevant data to a trade.

Construction Fund - The fund from which project costs are financed. A portion of the Bond proceeds is deposited into this fund which then earns interest during the construction period.

Consumer Price Index - Measures retail price changes and is often a closely monitored economic indicator.

Convertible Bond - A bond which may be converted into other securities, most often common equity securities.

Coupon - Determines (1) the amount of interest due on a Bond, (2) on what date the interest payments are to be made, and (3) where the payment is to be made.

Coverage - The ratio of operating income plus interest expense to interest obligations over a period (usually the life of the Issue). It represents the Issuer's ability to make debt service payments.

Credit Risk - The risk that an Issuer may default on its securities.

Cross - To avoid the middleman (i.e. broker) by selling securities directly to the buyer.

Current Yield - The ratio of interest to the market price of a Bond.

CUSIP - The Committee on Uniform Security Identification Procedures, formed to provide a standard means of identifying securities. A security is identified by its CUSIP number.

Dated Date - The date of an Issue from which bondholders are entitled to receive interest.

Dealer - A firm or an individual whose business it is to act as a principal in the purchase and sale of securities

Debenture - A bond which only has the security of the general credit of the Issuer and certain unpledged assets.

Debt Limit - The limit on the principal amount of debt that an Issuer may legally have outstanding at any time.

Debt Service - The sum of required principal and interest payments for a given period.

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Downgrade - Occurs when a Ratings Agency lowers the rating of an Issuer (e.g. Aaa to Aa).

DTC (Depository Trust Company) - A means of registering securities through the book-entry system. The use of this depository facilitates the delivery of Book-entry securities among its members. Most municipal bonds are distributed through this company.

Due Diligence - An investigation conducted by concerned parties to determine the accuracy of all the pertinent items associated with an Issue, and to ensure that no necessary information has been omitted.

Effective Yield - An investor's rate of return when it sells a security.

Equity Strip - An Issue which is secured by property unrelated to the project being financed.

Even Par Swap - The sale of a Block of Bonds and the simultaneous purchase of another Block of Bonds with the same principal amount.

Event of Default - A specific event, as defined in the financing documents associated with an Issue, which allows the Trustee and/or the bondholders to commence certain default proceedings as outlined in the Issue's security document.

Evergreen Refunding - The use of a fixed-rate refunding bond issue to hedge against the possibility of rising interest rates on an outstanding variable-rate issue. Such refundings are done when interest rates are expected to remain at levels above the rates on the refunding bonds.

Face Amount - The par value of a security.

Feasibility Study - A study conducted by an independent consultant to determine the financial feasibility of a project. The study may consist of a forecast, a projection, or a compilation.

Federal Funds - Commercial bank deposits held at Federal Reserve Banks. Some bond transactions require payment of proceeds in such funds, which are immediately available.

Federal Funds Rate - The interest rate at which such funds are traded.

Fiduciary - Individuals or trusts who are given the responsibility of acting for the benefit of others.

Finance Lease - A lease in which the lessee does not have use of the project over its entire useful life, but is responsible for the costs of upkeep, taxes, and insurance. The characteristics of this type of lease are such that the lessor realizes a satisfactory return on its investment.

Financial Guaranty Insurance Company (FGIC) - An insurance company which often issues policies which insure the required repayment of the principal and interest amounts of an Issue. All issues insured by FGIC carry the company's AAA credit rating.

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Gross Proceeds - The total proceeds of a bond issue, including: the original issue proceeds, the investment earnings on obligations acquired with the bond proceeds (including the repayment of principal), and any sums available to pay debt the issue's debt service. This is the definition in the context of federal tax law.

Guaranteed Investment Contracts (GICs) - Investment products with a typical maturity of less than ten years which are offered by financial institutions, and which pay investors a fixed rate of return. This rate of return normally follows the current yield on high grade debt securities.

Guaranty or Guaranty Agreement - An agreement by a third party to pay the debt service on another party's Issue. It may also refer to the promise of an Issue's primary obligor to pay debt service on the Issue under a sale and lease-back arrangement.

H.R. 3838 - Refers to the Tax Reform Act of 1986 which revised existing federal tax law including provisions affecting tax-exempt bond issues and the condition of tax-exempt bond interest in the hands of bondholders.

Hedge Clause - A clause which is intended to relieve the publisher of a document of any responsibility for the accuracy of information received from outside sources.

Hell or High Water Clause - A covenant which states the agreement of the coveted to meet certain payment obligations regardless of germane conditions whether they be anticipated or not.

High-to-Low Refunding - Refunding an Issue which has a high interest rate with an Issue with lower rates.

In Syndicate - Term which refers to any new Issue whose price and trading conditions are still subject to clauses set forth in the Agreement Among Underwriters.

Indemnification - The state of agreement in which one party to a securities transaction agrees to pay the expenses incurred by another party for whatever situations are set forth in the agreement.

Industrial Development Bonds (IDB's) - Securities issued by an entity to finance the business of a private corporation. The security backing for such issues is not the credit of the Issuer, but rather the credit of the private corporation.

Initial Offering Price - The percentage of par price at which the original purchaser intends to market an Issue. This price is based on yield to maturity.

Installment Sale - A lease financing sale where an issuer makes installment payments to finance a project; these payments cover debt service and other costs the Issuer incurs due to the project.

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Legal List **-** The list of investments legally available to institutional and other state-regulated investors.

Letter *of* ***Credit*** **-** The obligation of a bank to meet specified payment requirements of an issuer in the event the issuer cannot meet such requirements.

Leveraged Lease **-** A type of lease in which a lender lends funds to the lessor (normally more than 50% of what is required to buy the property). The leased property serves as part of the collateral behind the lender/lessor loan, but other credit of the lessor is generally immune from any recourse.

Lien **-** A security interest (possibly a mortgage) in a piece of property.

Limited Tax Bond **-** A bond whose backing is only a specified portion of the taxing power of the issuer.

Management Fee **-** The percentage of the underwriting spread which goes to the manager(s) of the account.

Manager **-** The underwriting firm(s) responsible for dealing with the Issuer on behalf of the entire group of underwriters.

Mandatory Sinking Fund **-** A standard means of paying Term Bonds in which deposits are made to an account for the express purpose of gaining interest and then being applied toward the Term Bond repayment.

Market Price Rule **-** A regulation preventing the acquisition of arbitrage profits by determining yields at the market price.

Market Value **-** The current price of a security in its trading market.

Marketability **-** The ease with which a security can be sold at a given price.

Master Lease **-** Lease in which the lessee has the option (as defined by the leasing agreement) to add property to the existing lease.

Maturity Date **-** The date on which the specified principal amount of a security becomes due.

Mello-Roos Bonds **-** Under the California Community Facilities District Act of 1982 special districts may be created to finance infrastructure improvements by levying special taxes within the district A public hearing and an election are necessary to issue bonds for the district. The decision to issue bonds may be the result of: (1) legislative initiative, (2) an outside request endorsed by members of the legislative body concerned, or (3) a petition filed by 10 percent of the property owners in the district. Both facilities and services may be financed by the issuance of Mello-Roos Bonds.

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New ***Money Issue*** - A bond issue used to finance a new capital project.

Nominal Yield - The face interest rate of a Bond.

Non-Arbitrage Certificate - The certification by authorized officials of an Issuer regarding matters which form the basis for concluding that certain Bonds are not arbitrage Bonds.

Non-Callable Bond - A Bond that is not redeemable by the Issuer prior to the maturity date.

Nonpurpose Investment - Any investment acquired with the proceeds of an issue which is not intended to carry out the purpose of the issue as described in the Indenture

Note - A security with a (normal) maturity less than that of a Bond. All the notes in an Issue typically have the same maturity.

Offering Price - The price investors in an issues receive when the original purchaser (Underwriter(s)) offers the securities for sale.

Official Statement (OS) - A document normally required for each new Issue which contains information about the nature of the security being offered and the pledged sources of payment behind the security.

150% Rule - If Private Activity Bond is not a qualified 501(c)(3) bond, the amount of gross proceeds invested in any given bond year in nonpurpose investments with a yield higher than the bond yield is not to exceed 150% of the anticipated debt service on the issue.

Open-Ended Indenture - An indenture which allows for additional bond issues governed under the original indenture.

Operating Lease - A type of lease which covers only a portion of the useful life of the leased property. This lease, usually covering less than 75% of the property's useful life, is characterized in this fashion for accounting and financial reporting purposes

Original Issue Discount - The discount from par at which an original offering is sold.

Original Proceeds - Net proceeds (total proceeds less the costs of issuance) received from a bond sale.

Original Purchaser - The purchaser (usually the underwriter(s)) of an original Issue directly from the Issuer.

Over the Counter (OTC) - An organized method of trading securities other than the stock exchanges.

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Project - The proposed use of the proceeds from an original securities offering.

Project Costs - All outlays expected to be associated with the financing of a project which are legally able to be included in the principal amount of the bond issue. These outlays may include the costs of acquisition, construction costs, equipment use and acquisition costs, capitalized interest expenses, reserve funding requirements, printing cost, legal fees, and the like.

Prospectus - The statement which must be filed with the Securities and Exchange Commission containing similar information to that found in an Official Statement, namely pertinent information about the issue and the Issuer.

Prudent Man Rule - The code of conduct that a Fiduciary is expected to follow.

Public Approval Requirement - A private activity bond must be approved after a public hearing by both an elected representative of the governmental unit issuing the bonds and each governmental unit which has some form of direct authority over the area in which any proposed facility is located.

Public Sale - Sale of an issue through a competitive bidding process in which the bidder offering to buy the issue and the lowest cost of funds to the Issuer is awarded the bonds.

Put Bond - A bond which allows the bondholder to redeem the bond at a specific price either during a specified time period or on or after a specific date. The issuers of Put Bonds must have the means available to pay off these bonds should they be tendered.

Quotation or quote - A market indication of the price at which a security can be bought or sold.

Rate Covenant - A promise to set rates or fees for the use of certain facilities, products or operations at levels sufficient to meet a specific percentage of the maximum annual debt service required.

Rating - An evaluation made (for a fee) by Rating Agencies of the creditworthiness of an Issue.

Rating Agencies - Organizations which are in the business of providing ratings of securities issues. Agencies performing the evaluation of an issue's creditworthiness include Standard ***&*** Poor's Corporation, Moody's Investors Service, Inc., and Fitch's Investors Service.

Realized Yield - The return on a Bond over a certain period of time, assuming that income earned from the Bond is reinvested at a stated reinvestment rate.

Reasonably Required Reserve - An amount, not exceeding 10% of the face value of an issue, to be held in reserve for the purpose of meeting debt service requirements.

Project - The proposed use of the proceeds from an original securities offering.

Project Costs - All outlays expected to be associated with the financing of a project which are legally able to be included in the principal amount of the bond issue. These outlays may include the costs of acquisition, construction costs, equipment use and acquisition costs, capitalized interest expenses, reserve funding requirements, printing cost, legal fees, and the like.

Prospectus - The statement which must be filed with the Securities and Exchange Commission containing similar information to that found in an Official Statement, namely pertinent information about the issue and the Issuer.

Prudent Man Rule - The code of conduct that a Fiduciary is expected to follow.

Public Approval Requirement - A private activity bond must be approved after a public hearing by both an elected representative of the governmental unit issuing the bonds and each governmental unit which has some form of direct authority over the area in which any proposed facility is located.

Public Sale - Sale of an issue through a competitive bidding process in which the bidder offering to buy the issue and the lowest cost of funds to the Issuer is awarded the bonds.

Put Bond - A bond which allows the bondholder to redeem the bond at a specific price either during a specified time period or on or after a specific date. The issuers of Put Bonds must have the means available to pay off these bonds should they be tendered.

Quotation or quote - A market indication of the price at which a security can be bought or sold.

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Service Lease - A true lease (the term of the lease is usually less than 80% of the useful life of the leased property and the lessee does not acquire possession of the property).

Short-Term - Obligations which generally have a maturity of less than one year.

SLGS (State and Local Government Series) - A type of U.S. Treasury security used by tax-exempt issuers to tailor the investment of bond proceeds to avoid earnings excessive arbitrage profits. Issuers must subscribe to these securities two weeks in advance of purchase.

Special Tax Bond - Any bond secured by a special form of tax; a tax on a certain commodity would be such a tax.

Spread - (1) The discount (usually computed in basis points per bond) an Underwriter receives for purchasing a bond issue - the difference between what the Underwriter pays for the issue and the resale price to the public. (2) The difference between the bid and offered price in the market for a security.

Stand-by Letter of ***Credit*** - A Letter of Credit which provides for a single draw should the bonds be declared to be in default and therefore accelerated by the Trustee involved.

Stated Interest Rate - The interest rate used to compute the annual interest payable on a security.

Story Bonds - Bonds exhibiting special features which must be explained to potential buyers in order that they will be purchased.

Supplemental Indenture - A supplement to an outstanding Indenture which does not fundamentally alter an outstanding Indenture, but functions to settle an inconsistency or remedy a formal defect.

Syndicate - A group of Underwriters who purchase a new Issue and resell it to the public.

Syndicate Restrictions - Obligations of the group of Underwriters concerning the distribution, price and market actions surrounding an issue.

Take - To buy at the offered price.

Tax-Exempt Lease (Municipal Lease) - A lease agreement in which the lessee is a state or local government and which exhibits interest payments which are exempt from the gross income portion of federal income tax.

Tax Reform Act of 1986 - Legislation which produced profound changes in the municipal practice of issuing tax-exempt debt securities.

TENR (Tax-Exempt Note Rate) - The Bankers Trust Company's indication of the annual interest rate on short term tax-exempt securities of high quality. This rate is announced weekly for the purpose of reflecting the current bid side yields on these securities.

Term Bonds - Bonds which have a single maturity. Compare to Serial Bonds.

Tombstone - An advertisement of a new issue which states the basic information about the securities offering (principal amount and terms), the underwriters involved, and how an Official Statement may be obtained.

Total Bonded Debt - A municipality's total general obligation debt outstanding.

Total Direct Debt - A municipality's combined sum of total bonded debt and any unfunded debt.

Transferred Proceeds - Refer to the proceeds of an issue being refunded. Federal tax law restricts the investment yield of these proceeds as they become part of the refunding bond issue.

Treasury Bill - Obligations of the United State Government which bear no interest but are sold a discount.

Treasury Bond - An interest-bearing security issued by the U.S. Treasury with a typical maturity of more than ten years.

Treasury Note - An interest-bearing security issued by the U.S. Treasury with a maturity of between one and ten years.

True Interest Cost (TIC) - The true cost of borrowing money. Computes the interest cost on a discounted present value method.

True Lease - A lease with a typical term of less than 80% of the useful life of the property being rented. Ownership of the property does not transfer to the lessee at the end of the lease, but the lessee may have the option of purchasing the property at its market value.

Trustee - The bank or trust company which serves both as the custodian of funds and the official representative of an issue's securities holders.

Two-Percent Rule - The percentage, as defined by the Tax Reform Act of 1986, of private activity bond proceeds which may be used to finance costs of issuance.

Underwrite - To assume the liability of delivering to the issuer the expected proceeds of an issue by agreeing to buy the issue in its entirety.

Underwriting Spread - See spread.

Undivided Account - An agreement between Underwriters holds each member of an underwriting group liable for the other members' unsold portion of the Issue.

Unlimited Tax Bonds - Bonds backed by taxes which not limited by rate.

Variable Interest Rates - Interest rates which change according to a formula set forth in the securities issue.

Volume Cap - The limitation on the aggregate annual amount of private activity bonds that may be issued in each state as stated in the Tax Reform Act of 1986.

When Issued (WI) - Trading securities before they have actually been issued. The trades are on a "when, as and if issued" basis.

Yield curve - Relationship between short and long term interest rates.

Yield to Average Life - The yield resulting from the use of average maturity instead of the maturity date of the issue in the yield calculation.

Yield to Call - The yield derived when the sum of interest payments to the call date is used as the cash flow when the issue is redeemed at its call price.

Yield to Maturity - The average annual percentage of return on a security assuming the interest is reinvested at the same yield and that the security is held to maturity.

Zero Coupon Bonds - Bonds which do not pay interest but are.sold at a substantial discount such that the difference between the par price and the discounted price results in the desired yield on the security. The bond is redeemable at its face value at maturity.

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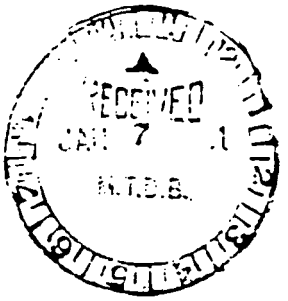
US Department of Transportation
Urban Mass Tmnsportotion Administration

REGION IX
Arizona, California
Hawaii, Nevada, Guam

211 Main Street
Room 1160
San Francisco, California 94105



JAN 4 1991

Thomas Larwin
General Manager
Metropolitan Transit Development Board
1255 Imperial Way
San Diego, California 92101-7490

RE: UMTA Project No. CA-90-X376 Proposed Financing of Bus Replacement through Issuance of Certificates of Participation

Dear Mr. Larwin:

This letter sets forth the terms of the Urban Mass Transportation Administration's (UMTA) final approval of the Metropolitan Transit Development Board's (MTDB) proposal to finance bus replacement needs through the issuance of certificates of participation (COPs). UMTA will participate in this transaction under the leasing authority of Section 9(j)(l) of the Urban Mass Transportation Act of 1964, as amended (UMT Act).

It is our understanding that the structure of this transaction will be as described in various documents submitted by the MTDB and its financial advisors, and particularly in the Lease Agreement dated December 1, 1990, and the memorandum from the First Boston Corporation, dated November 27, 1990.

According to these documents, the MTDB will issue COPs in an amount sufficient to fund the procurement of approximately 130 buses ($35 million), as well as a reserve fund and the cost of issuance. The COPS will be issued for a term of 12 years. As security for the COPs, the MTDB will covenant to appropriate annual principal and interest payments from all available revenues. UMTA will provide 80 percent of the annual principal and interest payments. To this end, grant number CA-90-X376 will be amended to change the purpose of the grant from the purchase of 18 buses to the acquisition of approximately 130 buses. Title to the vehicles will be held by the trustee for the security benefit of the COPs holders,

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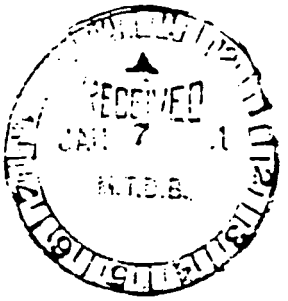

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Finally, upon closing of the transaction, the MTDB is asked to provide UMTA with the following material or information:

1. Executed copies of the transaction and any operative documents;

2. Copies of all filings by the MTDB regarding the transaction made with governmental agencies:

3. The amount of proceeds of the transaction;

4. The final cost of the transaction (including fees).

This letter should not be construed to supersede any of the conditions set forth in UMTA Administrator Brian Clymer's letter to you of October 19, 1990. UMTA's consent to this transaction will become void if there are any substantive or material changes in the terms reflected in the final draft operative documents submitted to us.

Sincerely,

Stewart A. Tyler
Regional Administrator